# Dana aiming to be biggest axle supplier

By Joseph Bohn
Truck Editor

ANAHEIM, Calif.—Dana Corp. is taking a hard run at being the largest heavy-truck axle producer, and officials announced additional plans to achieve that goal at the International Trucking Show.

Dana entered the heavy-truck axle business in 1979, shipping 500 units that year worth $3 million in sales.

Gus Franklin, vice president and general manager of the Spicer Heavy Axle Division, is forecasting shipment of 200,000 heavy front and rear axles in 1986 which, he said, would have a value of more than $300 million.

The division's rapid growth to the second-largest Class 6, 7 and 8 axle supplier was achieved largely through "market acquisitions and absorbing of those acquisitions," Franklin said.

(Rockwell is the largest supplier of heavy-truck axles.)

Dana has launched a Project 90 series of automation and other efficiency/quality improvements, of which the axle division is a part, to become a global low-cost producer by 1990.

Officials say it is the biggest capital investment program ever undertaken by the company.

A recently completed 230,000-square-foot axle plant in Lancaster, Pa., is part of its updated assembly and automation efforts.

At the truck show, Spicer Heavy Axle also introduced new 38,000-pound and 44,000-pound tandem models for the Class 8 market and a new 21,000-pound axle for the Class 6 and 7 market.

According to Ken Carter, marketing-sales manager, the new 21,000-pound axle is available in single and two-speed designs and is geared to giving fleets and dealers in the trucking industry more flexibility in specing.

Another advantage of the axle is a lower federal excise tax on trucks by keeping GVW ratings at or below the 33,000-pound limit.

Spicer also announced that precision-forged differential gears have been incorporated into all Spicer heavy-truck rear-axle models, ranging from 13,500 to 46,000-pound ratings.

The forged gears were described as more durable and cost effective than conventional cut gears, which are more commonly used in the industry.

Technically, precision forged gears are 30 percent stronger than conventional cut gears, Spicer said. This results in a differential better able to withstand the shock loads generated by modern trucks, the company said.

**Power to please**

On its 1986 4WD line, Toyota has added an independent front suspension to all models and has made a gasoline turbo engine available on its base 4x4 model and the 4Runner sport/utility vehicle.

# Registrations chalk up record for 7 months

Truck registrations maintained their record stride during the first seven months of 1985, topping last year's previous high by 16.7 percent.

Regstrations were up in all light, medium and heavy-duty segments. Heavy truck registrations were up 19.7 percent, according to R.L. Polk & Co.

The industry registered 2,693,960 trucks, up from 2,307,582 in the seven-month year-earlier period.

Light-truck, Class 1-3, registrations of 2,531,748 were up from 2,174,290 for seven months last year.

Within the light segment, Class 1 registrations of 1,741,690 were up from 1,236,353 in 1984.

Class 2 registrations of 768,461 were off from 915,242 a year ago, and Class 3 registrations of 21,597 also were off from 22,695 a year earlier.

Generally, the declines within particular segments reflect market shifts.

The increasing availability of new Japanese and European products has given buyers a wider choice within individual segments, causing them to change their traditional buying habits in many cases.

This is as true of the medium and heavy-truck segments as it is of the light-duty segment.

The medium Class 4-6 group registered 35,084 trucks, up from 27,126 a year ago.

There were 543 trucks registered in Class 4, up from 404 a year earlier.

Class 5 registrations totaled 4,023, up from 1,268 a year ago, and Class 6 registered 30,518, up from 25,454 last year.

In the heavy Class 7-8 segment, International displaced Ford as the industry leader, regaining the position it held last year.

IH's market share, along with GMC's, Kenworth's and Peterbilt's, is still off from a year earlier, while Ford and Mack continue to hold onto gains in the segment.

Analysts feel that Kenworth particularly has suffered from a

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**Roomier Mazda**

The 1986 Mazda B2000 Cab Plus pickup is available in SE-5 and LX trim levels (shown above). The added room allows two jump seats or extra storage behind the front seats.

# Mazda '86 line offers new Cab Plus model

LOS ANGELES.—Mazda has broadened its compact pickup line with a new B2000 Cab Plus model for 1986.

It has the same overall exterior dimensions as the 1986 long-bed model but has a larger passenger-car-like interior. With a cabin 17.7 inches longer than that of the standard model, the Cab Plus offers space behind the seat for two jump seats or extra storage.

Accented by an integrated front bumper/front skirt design, quarter side windows and slanted nose and hood surfaces that merge into a 53-degree windshield rake, the new model offers sporty styling.

The B2000 Cab Plus is powered by a 2.0-liter single overhead camshaft gasoline engine derived from the Mazda 626 power plant. The engine produces 80 HP at 4,500 RPM and 110 pounds-feet of torque at 2,500 RPM.

The independent front suspension is a double wishbone type that incorporates an I-shaped lower arm with tension rod and torsion bar. Special suspension bushings increase longitudinal compliance to improve ride comfort while still maintaining good handling.

Mazda said shear-type cab mounts have twice the vertical compliance and lateral rigidity of conventional compression-type mounts, providing good riding comfort and quietness.

At the rear, trapezoidal spring shackles provide lateral control compliance. The bias-mounted rear shock absorbers act to prevent axle windup under hard acceleration.

The Cab Plus is available in four trim levels—standard, SE-5, LX and LX with Convenience Package.

The standard Cab Plus is priced at $6,895, the SE-5 at $7,295. The LX, with its higher level of comfort and trim features, is priced at $7,895, and the fully loaded LX with Convenience Package is priced at $8,545.

Standard features on all trucks include full carpeting, tinted glass, intermittent windshield wipers, radial tires, locking fuel-filler door and bright windshield and drip rail moldings.

The SE-5 package includes black-painted rear step bumper, body stripes, cut-pile carpeting and dual sport door mirrors.

The LX offers chrome-plated spoker wheels, front bumper with chrome molding, pin stripes, tachometer, AM/FM/stereo radio, reclining bucket seats with lumbar support for the driver, digital quartz clock and center console box.

The Convenience Package adds halogen headlamps, rear sliding window, AM/FM/stereo with cassette and four speakers, cruise control and tilt steering wheel.

## truck industry news

# Chrysler planning to fill truck niches with '87 products

By Joseph Bohn
Truck Editor

CHELSEA, Mich.—Chrysler Corp. is trying to expand its coverage of the truck market, and some of the things it is working on for 1987 or later include:

1. New stretched versions of Caravan/Voyager, with higher-displacement engines as options.
2. The new line of Dakota pickups which will give Dodge three sizes of trucks.
3. An engine with higher displacement than the 360-CID V-8, which will expand applications in the commercial segment.
4. 4WD vans and wagons.

At a press briefing at its proving grounds here, Pat Keegan, general manager, Chrysler Truck Operations, said the company is looking seriously at stretched versions of its Caravan/Voyager and Mini Ram Van.

Company sources subsequently confirmed the approximately one-foot-longer versions would be offered as 1987½ models, together with the new V-6 engine Chrysler will import from Mitsubishi.

The stretched compacts will increase cargo-carrying capacity of seven-passenger models, which has been a problem, and also will increase interior legroom.

"It's enough to give you a nice cargo version with more cube (cubic feet)," Keegan added.

Commercial applications of the T-115 have been "virtually untapped" so far, Keegan said. "Frankly, people have been buying them so quickly with seats and windows, we haven't done a lot of concentration on the cargo van," he said.

It is a possible additional outlet, though, should van competition heat up and sales become more difficult to come by. It is also a market Chrysler will have to pursue if it adds a second assembly plant for compact vans.

Company insiders say the second-plant decision will have to be made within about six months.

Chrysler plans to drop its rear-drive Diplomat/Gran Fury/Fifth Avenue in the 1988 model year, replacing them with a new C-body line. The idea, if approved, would be to source the new C-body at another plant, and move second-sourcing for vans into the St. Louis plant where the full-sized rear-drive cars now are built.

Chrysler is expected to import about 450,000-500,000 Mitsubishi V-6s by 1988 for both its compact vans and the new C-bodies.

Keegan said the T-115 is drawing a heavier mix of trade-ins of two-door and four-door cars, but fewer trade-ins of station wagons

Please turn to Page 29, Col. 1

# IH, Nissan ink deal for medium cabovers

CHICAGO.—International Harvester finally signed its agreement with Nissan Diesel Motor Co., Ltd., Tokyo, for a new generation of Nissan-built cabover medium trucks to be marketed by IH.

Automotive News previously reported negotiations between the two companies and that a deal was imminent (Sept. 16).

All of IH's approximately 850 dealers in North America are franchised to market the new Class 6-7 models which will display the International nameplate. Deliveries to customers will begin in early 1986.

IH dealers will be responsible for parts and service for the new cabover models, and IH's parts distribution system will be the source for all parts requirements.

Nissan Diesel will initially supply IH with two models of cabover medium trucks.

Those competitively priced models will provide maneuverability and visibility for many city applications like beverage distribution, refuse collection and pick-up and delivery.

As previously reported, Nissan plans to eventually export up to 3,000 units yearly to IH, equal to 15 percent of Nissan Diesel's entire 1984 truck output.

Neil A. Springer, president and chief operating officer of IH, said the new models will enable IH to maintain its full medium and heavy-duty truck product line with competitive technology and low cost of ownership.

• Because cabover models account for only about 12 percent of industry demand for medium trucks, it was not economically prudent for IH to design, engineer and tool up for this limited-potential segment, Springer said.

The IH president added that the new models will not affect the manufacturing or marketing of

Please turn to Page 37, Col. 1

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## NEW TRUCK REGISTRATIONS BY MAKE AND GVW CLASS

**JULY 1985 VS. 1984•**

| | | Group 1 6,000 lbs. and less | Group 2 6,001 - 10,000 | Group 3 10,001 - 14,000 | Group 4 14,001 - 16,000 | Group 5 16,001 - 19,500 | Group 6 19,501 - 26,000 | Group 7 26,001 - 33,000 | Group 8 33,001 and over | Make Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| AUTOCAR | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 212 | 212 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 119 | 119 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,000 | 1,000 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 700 | 700 |
| CHEVROLET | July '85 | 65,327 | 52,822 | 2,879 | ..... | 38 | 620 | 931 | 70 | 122,687 |
| | July '84 | 47,511 | 42,383 | 2,503 | ..... | 18 | 588 | 906 | 40 | 93,929 |
| | Year to Date '85 | 392,724 | 291,632 | 16,865 | ..... | 146 | 3,048 | 5,823 | 312 | 710,550 |
| | Year to Date '84 | 323,208 | 285,353 | 21,837 | ..... | 129 | 3,137 | 4,793 | 315 | 638,772 |
| (Memo Units)# | July '85 | 45,384 | 19,393 | ..... | ..... | ..... | ..... | ..... | ..... | 64,777 |
| | July '84 | 32,817 | 18,443 | ..... | ..... | ..... | ..... | ..... | ..... | 51,260 |
| | Year to Date '85 | 291,929 | 110,061 | ..... | ..... | ..... | ..... | ..... | ..... | 401,990 |
| | Year to Date '84 | 221,564 | 117,022 | ..... | ..... | ..... | ..... | ..... | ..... | 338,586 |
| DODGE | July '85 | 32,068 | 13,957 | ..... | ..... | ..... | ..... | ..... | ..... | 46,025 |
| | July '84 | 24,716 | 11,886 | ..... | ..... | ..... | ..... | ..... | ..... | 36,602 |
| | Year to Date '85 | 212,713 | 95,330 | ..... | ..... | ..... | ..... | ..... | ..... | 308,043 |
| | Year to Date '84 | 180,522 | 60,810 | ..... | ..... | ..... | ..... | ..... | ..... | 241,332 |
| (Memo Units)# | July '85 | 23,548 | 8,164 | ..... | ..... | ..... | ..... | ..... | ..... | 31,712 |
| | July '84 | 18,645 | 7,714 | ..... | ..... | ..... | ..... | ..... | ..... | 26,359 |
| | Year to Date '85 | 157,923 | 51,991 | ..... | ..... | ..... | ..... | ..... | ..... | 209,914 |
| | Year to Date '84 | 115,426 | 50,865 | ..... | ..... | ..... | ..... | ..... | ..... | 166,291 |
| FORD | July '85 | 63,689 | 45,498 | ..... | ..... | ..... | 871 | 2,380 | 1,236 | 113,674 |
| | July '84 | 27,885 | 65,282 | ..... | ..... | ..... | 1,043 | 2,482 | 1,324 | 97,936 |
| | Year to Date '85 | 409,156 | 286,960 | ..... | ..... | ..... | 6,813 | 18,245 | 8,851 | 729,755 |
| | Year to Date '84 | 186,218 | 454,323 | ..... | ..... | ..... | 7,032 | 14,483 | 6,725 | 668,781 |
| (Memo Units)# | July '85 | 35,237 | 14,180 | ..... | ..... | ..... | ..... | ..... | ..... | 49,417 |
| | July '84 | 27,724 | 20,972 | ..... | ..... | ..... | ..... | ..... | ..... | 48,696 |
| | Year to Date '85 | 268,869 | 93,844 | ..... | ..... | ..... | ..... | ..... | ..... | 362,713 |
| | Year to Date '84 | 182,536 | 148,867 | ..... | ..... | ..... | ..... | ..... | ..... | 331,403 |
| FREIGHTLINER | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,493 | 1,493 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,227 | 1,227 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10,793 | 10,793 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8,485 | 8,485 |
| GMC | July '85 | 15,578 | 13,833 | 238 | ..... | 562 | 825 | 1,222 | 904 | 32,962 |
| | July '84 | 11,410 | 11,774 | 109 | ..... | 153 | 496 | 1,206 | 1,305 | 26,453 |
| | Year to Date '85 | 92,231 | 78,645 | 2,861 | ..... | 3,690 | 3,153 | 8,882 | 6,921 | 196,383 |
| | Year to Date '84 | 75,488 | 78,292 | 739 | ..... | 1,139 | 3,022 | 7,395 | 6,937 | |
| (Memo Units)# | July '85 | 10,037 | 4,314 | ..... | ..... | ..... | ..... | ..... | ..... | 173,006 |
| | July '84 | 7,215 | 4,483 | ..... | ..... | ..... | ..... | ..... | ..... | 14,351 |
| | Year to Date '85 | 65,023 | 26,888 | ..... | ..... | ..... | ..... | ..... | ..... | 11,698 |
| | Year to Date '84 | 46,631 | 28,650 | ..... | ..... | ..... | ..... | ..... | ..... | 91,911 |
| | | | | | | | | | | 75,281 |
| INTERNATIONAL | July '85 | ..... | ..... | ..... | ..... | ..... | 1,724 | 1,631 | 2,455 | 5,810 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | 1,872 | 1,244 | 2,627 | 5,743 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | 13,510 | 9,451 | 17,502 | 40,463 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | 9,564 | 8,153 | 15,950 | 33,667 |
| JEEP | July '85 | 13,058 | 1,357 | ..... | ..... | ..... | ..... | ..... | ..... | 14,415 |
| | July '84 | 10,482 | 1,427 | ..... | ..... | ..... | ..... | ..... | ..... | 11,909 |
| | Year to Date '85 | 84,784 | 9,766 | ..... | ..... | ..... | ..... | ..... | ..... | 94,550 |
| | Year to Date '84 | 68,468 | 11,953 | ..... | ..... | ..... | ..... | ..... | ..... | 80,421 |
| (Memo Units)# | July '85 | 13,058 | 1,214 | ..... | ..... | ..... | ..... | ..... | ..... | 14,272 |
| | July '84 | 10,482 | 1,214 | ..... | ..... | ..... | ..... | ..... | ..... | 11,696 |
| | Year to Date '85 | 84,784 | 8,611 | ..... | ..... | ..... | ..... | ..... | ..... | 93,395 |
| | Year to Date '84 | 68,468 | 9,882 | ..... | ..... | ..... | ..... | ..... | ..... | 78,350 |
| KENWORTH | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 764 | 764 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,035 | 1,035 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 6,414 | 6,414 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7,568 | 7,568 |
| MACK | July '85 | ..... | ..... | ..... | ..... | ..... | 360 | 74 | 2,229 | 2,663 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | 346 | 67 | 1,947 | 2,360 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | 2,425 | 605 | 15,532 | 18,562 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | 1,927 | 328 | 10,973 | 13,228 |
| MERCEDES-BENZ | July '85 | ..... | ..... | ..... | ..... | ..... | 198 | 150 | ..... | 348 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | 130 | 130 | ..... | 260 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | 1,490 | 1,083 | ..... | 2,573 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | 735 | 442 | ..... | 1,177 |
| PETERBILT | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,099 | 1,099 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,136 | 1,136 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7,372 | 7,372 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7,011 | 7,011 |
| PLYMOUTH | July '85 | 10,764 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10,764 |
| | July '84 | 7,300 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | 7,305 |
| | Year to Date '85 | 64,733 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 64,733 |
| | Year to Date '84 | 46,595 | 101 | ..... | ..... | ..... | ..... | ..... | ..... | 46,696 |
| VOLVO | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | 150 | 69 | 219 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | 131 | 58 | 189 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | 851 | 495 | 1,346 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | 732 | 338 | 1,070 |
| WESTERN STAR | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 112 | 112 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 52 | 52 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 693 | 693 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 308 | 308 |
| WHITE | July '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 767 | 767 |
| | July '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 465 | 465 |
| | Year to Date '85 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5,123 | 5,123 |
| | Year to Date '84 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3,865 | 3,865 |
| MISCELLANEOUS> | July '85 | 80,738 | 1,051 | 309 | 75 | 39 | 19 | 28 | 192 | 82,451 |
| | June '84 | 59,308 | 791 | 24 | 75 | ..... | 8 | 24 | 75 | 60,305 |
| | Year to Date '85 | 485,349 | 8,128 | 1,871 | 543 | 187 | 79 | 224 | 1,226 | 495,607 |
| | Year to Date '84 | 375,854 | 4,406 | 119 | 404 | ..... | 37 | 70 | 605 | 381,495 |
| TOTALS | July '85 | 281,222 | 128,518 | 3,426 | 75 | 639 | 4,417 | 6,566 | 11,602 | 436,465 |
| | July '84 | 188,532 | 133,529 | 2,636 | 75 | 171 | 4,483 | 6,190 | 11,410 | 347,025 |
| | Year to Date '85 | 1,741,690 | 768,461 | 21,597 | 543 | 4,023 | 30,518 | 45,184 | 81,964 | 2,693,960 |
| | Year to Date '84 | 1,236,353 | 915,242 | 22,685 | 404 | 1,268 | 25,454 | 36,386 | 69,780 | 2,307,582 |

•—Manufacturers' sales records used for compiling Oklahoma and New York in 1984.

#—Memo units are trucks which are part of the total listed above each entry. Memo units are Chevrolet Jan, El Camino, Blazer and S-10; Dodge compact trucks; Ford Econoline and Bronco; GMC Vandura, Jimmy, Caballero and S-15. >—Miscellaneous includes imports, FWD, Hendrickson, Oshkosh, etc.

—Compiled from R. L. Polk & Co. data

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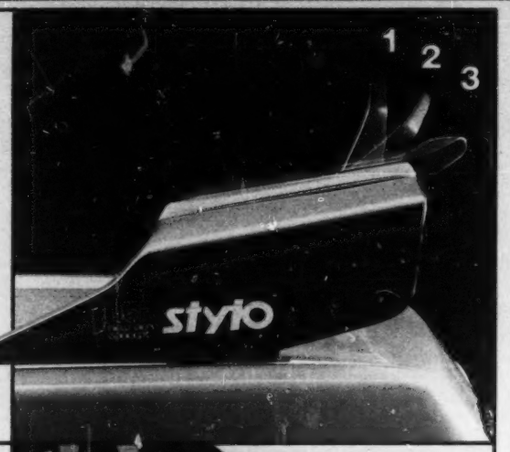


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VISA

# Chrysler establishes service liaison group

Continued from Page 16

optional on all other front-wheel-drive passenger cars except the Omni and Horizon.

He said the 2.5L is a derivative of the 2.2L, but has received added features that also have been given to the 2.2L. For example, the air cleaner is easier to get to and has a more attractive appearance. It helps reduce induction noise and the top comes off by hand for checking and cleaning.

All the 2.2L engines, except those in Omni/Horizon, have a new cylinder cover which makes the positive crankcase ventilation system more efficient and gets rid of an ugly little box the PVC hung in behind the engine, he said.

"It makes the whole system significantly quieter," Bollman said.

There also is a new timing-belt cover. Its top portion can come off for service or repair without disturbing any of the alternator or air-conditioning bracketry, Bollman said.

"Just three screws hold it on and it slides off," Bollman said. "There also have been improvements made to the top cover itself to help keep out sand, gravel and snow."

The company has added two new on-board diagnostic codes for its electronic fuel-injection and turbo engines for 1986.

The first indicates an engine running too cool, a condition that might be caused by something like a thermostat stuck in the open position. Too cool an engine sets a flag inside the on-board diagnostics of the logic module, he said.

The second is a throttle-body temperature sensor. It senses a hot inlet and will adjust the duty cycle of the injector to clear the engine when it's hot and bring better driveability, Bollman said.

Both conditions now have trouble codes that go into the logic module. Neither one causes a default or limp-home mode or turns on an instrument panel warning light, he said.

"That allows the mechanic to reach into the box where that number is stored in memory and trigger it and read it out," he said.

Bollman said his company is paying a great deal of attention to under-hood appearance.

"Park a 1980 K-car with its carburetor next to a 1986 with direct-fuel injection and compare the two in cosmetics. We've come far.

"When Omni/Horizon bowed in 1978, one of our designers said, 'My God, what have we done? With all of those wires, cables, hoses, tubes and everything under the hood—some of them unretained and not clipped at all—it looks like an explosion in a spaghetti factory.'

"From that point on we were driven by under-hood cosmetics," Bollman said.

"We use cosmetics because an uncluttered under-the-hood invites repair, invites someone to take a look and looks less confusing," he said.

# Trucks chalk up 7-month record for registrations

Continued from Page 14

general falloff in the owner-operator buying segment of the market.

Fleet sales have softened in the past couple of months, but they have not dropped as much as sales to individual purchasers.

Overall, heavy-duty manufacturers registered 127,128 Class 7-8 trucks, up from 106,166 a year earlier, Polk figures show.

There were 45,164 trucks registered in Class 7, up from 36,386, while Class 8 registrations numbered 81,964, up from 69,780 in the year-earlier period.

## U.S. TRUCK REGISTRATIONS

**SEVEN MONTHS, 1985 VS. 1984★**

| Make | 7 mos., 1985 | Percent Share of '85 market | 7 mos., 1984 | Percent Share of '84 market | Pct. pt. Change, '85-'84 |
|---|---|---|---|---|---|
| Ford | 729,755 | 27.09 | 668,781 | 28.98 | −1.89 |
| Chevrolet | 710,550 | 26.38 | 638,772 | 27.68 | −1.30 |
| Dodge | 308,043 | 11.43 | 241,332 | 10.46 | +0.97 |
| GMC | 196,383 | 7.29 | 173,006 | 7.50 | −0.21 |
| Jeep | 94,550 | 3.51 | 80,421 | 3.49 | +0.02 |
| Plymouth | 64,733 | 2.40 | 46,696 | 2.02 | +0.38 |
| International | 40,463 | 1.50 | 33,667 | 1.46 | +0.04 |
| Mack | 18,562 | 0.69 | 13,228 | 0.57 | +0.12 |
| Freightliner | 10,793 | 0.40 | 8,485 | 0.37 | +0.03 |
| Peterbilt | 7,372 | 0.27 | 7,011 | 0.30 | −0.03 |
| Kenworth | 6,414 | 0.24 | 7,568 | 0.33 | −0.09 |
| White | 5,123 | 0.19 | 3,865 | 0.17 | +0.02 |
| Mercedes | 2,573 | 0.09 | 1,177 | 0.05 | +0.04 |
| Volvo | 1,346 | 0.05 | 1,070 | 0.05 | —— |
| Autocar | 1,000 | 0.04 | 700 | 0.03 | +0.01 |
| Western Star | 693 | 0.03 | 308 | 0.01 | +0.02 |
| Miscellaneous★ | 495,607 | 18.40 | 381,495 | 16.53 | +1.87 |
| TOTALS | 2,693,960 | 100.00 | 2,307,582 | 100.00 | —— |

★—All truck registrations in Oklahoma, and in 1984, New York, compiled from manufacturers' sales records.
★—Miscellaneous includes imports, Crane Carrier, Oshkosh, FWD, Hendrickson, etc.

## U.S. HEAVY-DUTY REGISTRATIONS

**SEVEN MONTHS, 1985 VS. 1984★**

| Make | 7 mos., 1985 | Percent Share of '85 market | 7 mos., 1984 | Percent Share of '84 market | Pct. pt. Change, '85-'84 |
|---|---|---|---|---|---|
| International | 26,953 | 21.20 | 24,103 | 22.70 | −1.50 |
| Ford | 26,826 | 21.10 | 21,208 | 19.98 | +1.12 |
| Mack | 16,137 | 12.69 | 11,301 | 10.64 | +2.05 |
| GMC | 15,803 | 12.43 | 14,322 | 13.49 | −1.06 |
| Freightliner | 10,793 | 8.49 | 8,485 | 7.99 | +0.50 |
| Peterbilt | 7,372 | 5.80 | 7,011 | 6.60 | −0.80 |
| Kenworth | 6,414 | 5.05 | 7,568 | 7.13 | −2.08 |
| Chevrolet | 6,135 | 4.83 | 5,108 | 4.81 | +0.02 |
| White | 5,123 | 4.03 | 3,865 | 3.64 | +0.39 |
| Volvo | 1,346 | 1.06 | 1,070 | 1.01 | +0.05 |
| Mercedes-Benz | 1,083 | 0.85 | 442 | 0.42 | +0.43 |
| Autocar | 1,000 | 0.79 | 700 | 0.66 | +0.13 |
| Western Star | 693 | 0.55 | 308 | 0.29 | +0.26 |
| Miscellaneous | 1,450 | 1.13 | 675 | 0.64 | +0.49 |
| TOTALS | 127,128 | 100.00 | 106,166 | 100.00 | —— |

★—Group 7 and 8 trucks only.

CONGRATULATIONS

LINCOLN MERCURY GREAT PERFORMERS

YEAR-TO-DATE
DOUBLE DIGIT MARKET PENETRATION

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SEEKONK, MASS.

•SPRINGFIELD LINCOLN MERCURY
SPRINGFIELD, MASS.

•WHITEWATER FORD LINCOLN MERCURY
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"JOLLY JOHN" PULSIFER

**290,738 for July; 30.63 pct. of U.S. market**

# Import registrations highest ever

By Jenny L. King
Detroit Reporter

With the domestic sales pace slowing in July and imports continuing to grow, the registration book showed a dramatic gain in market share for imports.

Imports not only notched an any-month numbers record in July, they passed the 30-percent mark for the first time in almost two years. According to figures reported by R.L. Polk & Co., new import registrations of 290,738 in July accounted for 30.63 percent of the market.

The total was up 29.73 percent from 224,103 a year earlier. At that time, the domestic market was considerably stronger, keeping imported cars to only 24.81 percent of the market.

July saw Nissan, Toyota and Honda locked in the usual struggle for first place among the imports. This time, Nissan captured the crown with registrations of 60,707 new passenger cars and 20.88 percent of the import total. Nissan gained 1.25 percentage points year to year, rising from 19.68 percent based on 43,996 registrations a year earlier.

Second-place Toyota had 20.28 percent of the total, down 1.61 percentage points from 21.89 percent in July, 1984. Honda, which includes both imported and U.S.-built cars, was third with 17.68 percent, down 0.66 percentage points from 18.34 percent.

Volkswagen was fourth, considerably behind the three leaders. VW registrations rose 28 percent, but its market share dipped slightly. Like Honda, VW numbers include U.S.-built cars. The other German imports, BMW, Mercedes-Benz and Audi, all improved their lots July to July.

Ten imports captured 88.17 percent of the market; a year ago they held 89.75 percent.

At the end of seven months, it was Honda in first place among imports with 313,088 registrations and 19.56 percent of the import market. Toyota, with 19.12 percent, was nudged into second place, followed closely by Nissan.

While each of the top 10 imports was up in numbers from 1984, only Mercedes-Benz and BMW increased their shares of the market, 0.07 percentage points and 0.23 percentage points, respectively.

Seven-month import registrations of 1,600,549 were up 12.51 percent from 1,422,531 in 1984. Their share of the total market grew to 25.78 percent from 24.03 percent.

Japanese imported cars accounted for 72.08 percent of the July, 1985, import market, down a percentage point from 73.08 percent in 1984. West German products were up to 13.63 percent from 11.29 percent, while the U.S. segment eased off to 7.87 percent from 8.01 percent. Numbers of cars by countries of origin were:

| | July, 1985 | July, 1984 |
|---|---|---|
| Japan | 209,557 | 163,779 |
| W. Germany | 39,632 | 25,312 |
| United States | 22,870 | 17,944 |
| Sweden | 14,371 | 12,431 |
| France | 1,846 | 2,588 |
| Great Britain | 1,823 | 1,399 |
| Italy | 639 | 628 |
| Ireland | 0 | 22 |
| TOTAL | 290,738 | 224,103 |

Year-to-date import registrations were 70.28 percent Japanese, 14.08 percent German, 8.57 percent U.S. and 5.21 percent Swedish, with the remaining 1.86 percent belonging to British, French and Italian products. A year earlier, the Japanese portion was 70.64 percent, the German share of 13.38 percent, U.S. cars represented 8.10 percent and Swedish Volvos and Saabs had 5.62 percent.

The country-by-country breakout was as follows:

| | 7 Mos., 1985 | 7Mos. 1984 |
|---|---|---|
| Japan | 1,124,861 | 1,004,930 |
| W. Germany | 225,282 | 190,291 |
| United States | 137,224 | 115,224 |
| Sweden | 83,354 | 79,879 |
| France | 14,277 | 18,155 |
| Great Britain | 11,368 | 10,310 |
| Italy | 4,183 | 3,499 |
| Ireland | 0 | 243 |
| TOTAL | 1,600,549 | 1,422,531 |

Imported truck registrations in July were up 35.12 percent from the preceding year, to 88,048 from 65,165. Top-selling Toyota easily outdistanced second-place Nissan, with Mazda third and Isuzu fourth, replacing Dodge Ram 50. Their numbers were:

| | July, 1985 | July, 1984 |
|---|---|---|
| Toyota | 36,318 | 25,394 |
| Nissan | 22,821 | 17,339 |
| Mazda | 11,020 | 8,994 |
| Isuzu | 6,730 | 3,380 |
| Dodge Ram 50 | — | 4,327 |
| Others | 11,159 | 5,731 |
| TOTAL | 88,048 | 65,165 |

Year-to-date truck registrations, through July, were up 32.38 percent from 1984, to 540,337 from 408,156. Again, it was Toyota on top, followed by Nissan and Mazda. Isuzu took fourth place from Dodge. The totals were as follows:

| | 7 Mos., 1985 | 7 Mos., 1984 |
|---|---|---|
| Toyota | 206,810 | 151,395 |
| Nissan | 151,102 | 115,841 |
| Mazda | 62,278 | 65,186 |
| Isuzu | 41,225 | 22,880 |
| Dodge Ram 50 | — | 24,455 |
| Others | 78,922 | 28,399 |
| TOTAL | 540,337 | 408,156 |

## Sander succeeds father as head of Illinois dealers

SPRINGFIELD, Ill.—Peter J. Sander has been named president of the 1,300-member Illinois New Car/Truck Dealers Assn.

Sander succeeds his father, Les Sander, who is retiring after 32 years as president.

## TOP CARS

U.S. registrations for Seven Months, 1985 vs. 1984 Oklahoma and New York, 1984, and Oklahoma, 1985, from manufacturers' sales records.

| 1985 Position | | Make | 1984 Position | |
|---|---|---|---|---|
| 1— | 909,771 | Chevrolet | 943,542 | — 1 |
| 2— | 813,907 | Ford | 739,205 | — 2 |
| 3— | 623,842 | Oldsmobile | 653,257 | — 3 |
| 4— | 502,714 | Buick | 533,563 | — 4 |
| 5— | 439,560 | Pontiac | 408,046 | — 5 |
| 6— | 313,088 | Honda | 276,761 | — 8 |
| 7— | 306,063 | Toyota | 276,827 | — 7 |
| 8— | 305,358 | Mercury | 296,776 | — 6 |
| 9— | 297,455 | Nissan | 268,307 | — 9 |
| 10— | 260,822 | Dodge | 210,036 | —10 |
| 11— | 211,851 | Chrysler | 178,079 | —11 |
| 12— | 202,238 | Plymouth | 167,980 | —13 |
| 13— | 169,440 | Cadillac | 176,656 | —12 |
| 14— | 105,903 | VW | 97,643 | —15 |
| 15— | 100,296 | Mazda | 89,802 | —16 |
| 16— | 91,186 | Lincoln | 80,260 | —18 |
| 17— | 85,253 | Subaru | 81,947 | —17 |
| 18— | 76,739 | AMC | 108,708 | —14 |
| 19— | 60,294 | Volvo | 59,890 | —19 |
| 20— | 51,740 | Mercedes | 44,965 | —20 |
| 21— | 49,710 | BMW | 40,836 | —22 |
| 22— | 43,970 | Audi | 41,151 | —21 |
| | 186,777 | Other Imports | 144,402 | |
| | 131 | Misc. Dom. | 160 | |
| | 6,208,100 | TOTAL | 5,918,799 | |

Automotive News analysis of new-car registrations based on R. L. Polk & Co. statistical report.

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## MARKET SHARES

7 MONTHS
1985 VS. 1984

| Make | 1985 Market Share | 1984 Market Share | Pct. Pt. Change '85 vs. '84 |
|---|---|---|---|
| Chevrolet | 14.65 | 15.94 | −1.29 |
| Ford | 13.11 | 12.49 | +0.62 |
| Oldsmobile | 10.05 | 11.04 | −0.99 |
| Buick | 8.10 | 9.02 | −0.92 |
| Pontiac | 7.08 | 6.89 | +0.19 |
| Honda | 5.04 | 4.67 | +0.37 |
| Toyota | 4.93 | 4.67 | +0.25 |
| Mercury | 4.92 | 5.01 | −0.09 |
| Nissan | 4.79 | 4.53 | +0.26 |
| Dodge | 4.20 | 3.55 | +0.65 |
| Chrysler | 3.41 | 3.01 | +0.40 |
| Plymouth | 3.26 | 2.84 | +0.42 |
| Cadillac | 2.73 | 2.98 | −0.25 |
| VW | 1.71 | 1.65 | +0.06 |
| Mazda | 1.62 | 1.52 | +0.10 |
| Lincoln | 1.47 | 1.36 | +0.11 |
| Subaru | 1.37 | 1.38 | −0.01 |
| AMC | 1.24 | 1.80 | −0.56 |
| Volvo | 0.97 | 1.01 | −0.04 |
| Mercedes | 0.83 | 0.76 | +0.07 |
| BMW | 0.80 | 0.69 | +0.11 |
| Audi | 0.71 | 0.70 | +0.01 |
| Other Imports | 3.01 | 2.44 | +0.57 |
| Misc. Dom. | 0.00 | 0.00 | −0.00 |
| TOTAL | 6,208,100 | 5,918,799 | |

Based on new-car registrations from R. L. Polk & Co. Oklahoma and New York, 1984, and Oklahoma, 1985, numbers from manufacturers' sales records.

# Ford sponsors exhibition of 500 years of British art

WASHINGTON.—Ford Motor Co. will join the National Gallery of Art in bringing to Washington The Treasure Houses of Britain: Five Hundred Years of Private Patronage and Art Collecting. The exhibit is slated for Nov. 3-March 16.

More than 700 historic works of art, many of them never before seen in public, will make this the greatest single exhibition of British treasures ever displayed outside the U.K., according to the National Gallery.

The exhibition will be presented in chronological order, commencing with a Tudor/Elizabethan room; moving through the Jacobean era; reviewing the Palladian style; presenting rare collections of paintings and porcelain, and reflecting the monumental scale and sense of balance which characterize the English country house.

"One cannot help but be impressed by the perseverance and dedication of the generations of owners of the British country houses who built their art collections so painstakingly over a 500-year period," said Ford Chairman Donald Petersen.

## Northwood auto show scheduled Oct. 11-13

MIDLAND, Mich.—The 22nd annual Northwood Students' Automotive Industry Show will be held Oct. 11-13 on the campus of Northwood Institute.

The show is unique in that it takes place outdoors in a flamboyant autumn setting.

## IMPORT REGISTRATION SHARES IN U.S.

| | JULY Regis., July, 1985 | Percent Share of Market | Regis., July, 1984 | Percent Share of Market | Pct. Pt. Change '85 vs. '84 | | SEVEN MONTHS Regis., 7 mos., 1985 | Percent Share of Market | Regis., 7 mos., 1984 | Percent Share of Market | Pct. Pt. Change '85 vs. '84 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nissan | 60,707 | 20.88 | 43,996 | 19.63 | +1.25 | Honda | 313,088 | 19.56 | 276,761 | 19.76 | −0.20 |
| Toyota | 58,980 | 20.28 | 49,052 | 21.89 | −1.61 | Toyota | 306,063 | 19.12 | 276,827 | 19.46 | −0.34 |
| Honda | 51,399 | 17.68 | 41,101 | 18.34 | −0.66 | Nissan | 297,455 | 18.58 | 268,307 | 18.86 | −0.28 |
| VW | 18,201 | 6.26 | 14,192 | 6.33 | −0.07 | VW | 105,903 | 6.62 | 97,643 | 6.87 | −0.25 |
| Mazda | 17,594 | 6.05 | 13,765 | 6.14 | −0.09 | Mazda | 100,296 | 6.27 | 89,802 | 6.31 | −0.04 |
| Subaru | 13,983 | 4.81 | 12,682 | 5.66 | −0.85 | Subaru | 85,253 | 5.33 | 81,947 | 5.76 | −0.43 |
| Volvo | 10,467 | 3.60 | 9,439 | 4.21 | −0.61 | Volvo | 60,294 | 3.77 | 59,890 | 4.21 | −0.44 |
| BMW | 8,781 | 3.02 | 5,639 | 2.52 | +0.50 | Mercedes | 51,740 | 3.23 | 44,965 | 3.16 | +0.07 |
| Mercedes | 8,521 | 2.93 | 5,393 | 2.41 | +0.52 | BMW | 49,710 | 3.10 | 40,836 | 2.87 | +0.23 |
| Audi | 7,723 | 2.66 | 5,871 | 2.62 | +0.04 | Audi | 43,970 | 2.75 | 41,151 | 2.89 | −0.14 |
| Others | 34,382 | 11.83 | 22,973 | 10.25 | +1.58 | Others | 186,777 | 11.67 | 144,402 | 10.15 | +1.52 |
| TOTAL | 290,738 | | 224,103 | | | TOTAL | 1,600,549 | | 1,422,531 | | |
| Share of U.S. Total | | 30.63 | | 24.81 | +5.82 | Share of U.S. Total | | 25.78 | | 24.03 | +1.75 |

1984 numbers for New York State and Oklahoma, and Oklahoma, 1985, from manufacturers' sales records.

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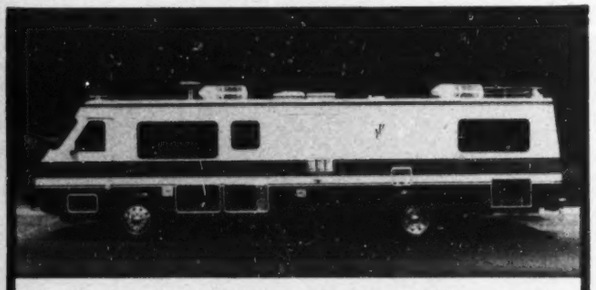

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Hawkins Motor Coach, Inc.
**1610 S. Cucamonga, Ontario, CA 91761**
**(714) 947-2512**

# Marketing & Media

Continued from Page 22

and Connecticut, won the 1985 Cadillac Laurel Award in the television category for a commercial budgeted at more than $1 million.

The commercial was created and produced by ad agency Avrett, Free & Ginsberg, which won the account a year ago.

The winning campaign featured spokesman Tim McCarver, a former baseball star and currently color announcer for New York Mets telecasts. It had a media budget in excess of $2 million and was timed for the 1985-model launch of the new C-cars.

### H&M selected

General Tire has chosen Ohio-based ad agency Hesselbart & Mitten as its new agency of record.

H&M replaces D'Arcy Masius Benton & Bowles.

Hesselbart & Mitten will handle electronic and print media as well as collateral support and sales promotional activies, General Tire said.

### Contests

The ninth annual NADA/Radio Advertising Bureau awards competition is open for entries.

There are three market categories—population less than 100,000, 100,000 to 500,000 and over 500,000. Individual dealers, their ad agencies or local radio stations are eligible to submit one entry per dealer. The entry deadline is Nov. 29. The spots must have aired between Oct. 1, 1984, and Oct. 1, 1985.

For the first time, dealer association commercials will be eligible to compete. They will compete against each other in a separate judging category.

A call for entries also has been issued for the 15th annual NoRMA Awards, sponsored by the Newspaper Advertising Bureau and the National Retail Merchants Assn.

Any merchandise or institutional ad carried in a daily newspaper between Nov. 1, 1984, and Oct. 31, 1985, is eligible. Nov. 4 is the entry deadline.

## AMC assigns Renault account to Jeep agency

DETROIT.—American Motors has ended weeks of speculation and rumor by selecting ad agency Saatchi & Saatchi, Compton to handle its Renault account in addition to the Jeep account. The AMC Eagle car is part of the Jeep account.

In addition to preparing advertising, the agency will also have an expanded role in certain marketing, merchandising and sales promotion programs.

Grey Advertising, which had handled AMC's car account since replacing Cunningham & Walsh in 1978, lost the Renault account in favor of Compton. Saatchi & Saatchi, Compton has handled the Jeep account since 1964.

AMC said the account consolidation was made to "maximize the efficiency" of its marketing dollars.

"This consolidation makes possible a new kind of relationship in which the agency will become much more deeply involved in American Motors operations," said Joseph E. Cappy, executive vice president—operations.

"Saatchi & Saatchi, Compton will become our full marketing partner and assume an active role in all marketing and planning areas," he said.

Grey will remain agency of record for the car account until Dec. 31, although the "transitional" period already has started, AMC said.

### 120-second spot airs

Tom Williams Buick, Birmingham, Ala., is bucking the trend. While TV commercials get shorter and shorter, including a fairly good sampling of 15-second spots, Williams has aired 120-second commercials.

The spots, prepared by The Wright Edge, began airing in mid-September on local network affiliates and several cable networks through the local cable service to announce the arrival of the first of the 1986 Buicks.

"We see the need to take more time to present the facts necesary to help viewers make the decision to buy," said H. Wright Chapman, president of the ad agency.

### New businesses

Detroit Tigers pitcher Milt Wilcox has opened a Detroit-based PR agency, **Milt Wilcox & Associates**, "to supply professional athletes for autograph sessions, personal appearances, banquets, grand openings and other endeavors." The new agency also hopes to place athletes in print ads plus radio and TV commericals.

James M. Kendrick, former communications vice president at Tenneco Automotive, has opened **Kendrick Communications Services** in Chicago. His first two clients are Tenneco and Exide Corp.

In Philadelphia, **LindaStrauss Enterprises** has been formed as a "full-scale marketing consulting agency." Linda Strauss has spent 10 years in automobile advertising.

Former Campbell-Ewald PR specialist Bob Norwood has hung out his shingle as **Robert L. Norwood & Associates** in Detroit. Norwood has extensive experience in broadcast and print media as well as public relations.

### Personnel

Toyota Motor Sales U.S.A. has named **George Borst** corporate marketing manager with responsibility for marketing merchandising and advertising.

Toyota also named **Charles Valentine** national ad manager. Borst joined Toyota from Chevrolet, and Valentine formerly was with McCann-Erickson.

Dancer Fitzgerald Sample has assigned senior vice president **John Hirschboeck** to DFS/Australia as managing director of the Toyota accounts there.

DFS senior vice president **Joe Cronin** has replaced Hirschboeck as management supervisor on the national Toyota Motor Sales account.

**Duane E. Poole** has been named PR director for General Motors' Warehousing and Distribution Division. He had been assistant director of civic affairs for the Chevrolet-Pontiac-Canada Group.

**Andrew L. Schupack** has been named a senior account executive for PR firm Creamer Dickson Basford. He had been a senior account executive at PR agency Hill & Knowlton's Los Angeles office.

**Marcie Hill**, K&E/Detroit, has been named a senior vice president. Hill, associate media director, is responsible for Chrysler-Plymouth and corporate network and cable TV buys.

### Setting it straight

Captions on these two pictures were inadvertently swapped in last week's Recreation on Wheels page. Correct identification is as follows: Above is Toyota's LE Pasenger Van for 1986, featuring a new 2.2-liter, 105-HP engine. Below is a Jayco Van Conversions unit. Jayco offers a choice of six window arrangements and five floorplans in Series 5000 and 7000 models.

### DOMESTIC SALES

| | Sept. 1-10, 1985 | Sept. 1-10, 1984 |
|---|---|---|
| Renault | | |
| Alliance-Encore | 3,000† | 3,950† |
| AMC | 300† | 300† |
| AMERICAN MOTORS | 3,300† | 4,250† |
| Chrysler | 10,702 | 6,588 |
| Plymouth | 7,812 | 5,056 |
| Dodge | 11,108 | 6,547 |
| CHRYSLER CORP. | 29,622 | 18,191 |
| Ford | 42,738 | 25,959 |
| Mercury | 16,050 | 10,808 |
| Lincoln | 4,886 | 2,561 |
| FORD MOTOR CO. | 63,674 | 39,328 |
| Buick | 24,144 | 17,875 |
| Cadillac | 8,192 | 5,561 |
| Chevrolet | 46,471 | 27,964 |
| Oldsmobile | 31,540 | 18,726 |
| Pontiac | 22,167 | 13,299 |
| GENERAL MOTORS | 132,514 | 83,425 |
| VOLKSWAGEN | 1,057 | 812 |
| HONDA | 3,831 | 4,234 |
| NISSAN | 1,682 | 0 |
| U.S. INDUSTRY TOTAL | 235,680 | 150,240 |

†—Estimate


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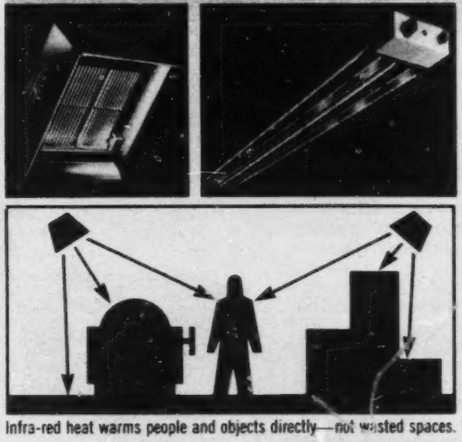

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# factories list auction dates

### Chrysler Corp.

Oct. 1—Hatfield Auto Auction, Hatfield, Pa.; Aptco Auto Auction, Taylor, Mich.; Golden Gate Auto Auction, Fremont, Calif., and Nu-CarPrep System, Santa Fe Springs, Calif.

Oct. 2—Butler Auto Auction, Gibsonia, Pa.; Sand Mountain Auto Auction, Boaz, Ala.; Dallas Auto Auction, Grand Prairie, Tex., and Minneapolis Auto Auction, Plymouth, Minn.

Oct. 3—Clanton's Auto Auction, Darlington, S.C., and Indianapolis Auto Auction, Indianapolis.

Oct. 4—Concord Auto Auction, Acton, Mass., and Floyd Hauge Auto Auction, Bridgeton, Mo.

### Ford Motor Co.

Oct. 2—Metro Auto Auction of Kansas City, Lee's Summit, Mo., and Brasher's Southern California Auto Auction, Fontana, Calif.

Oct. 3—Skyline Auto Exhcnage, Fairfield, N.J.

Oct. 8—Harrisonburg Auto Auction, Harrisonburg, Va., and South Seattle Auto Auction, Kent, Wash.

Oct. 10—Dallas Auto Auction, Dallas.

### General Motors

Sept. 25—Brasher's Salt Lake Auto Auction. Salt Lake City, and Metro Auto Auction, Kansas City, Mo.

Sept. 26—Butler Auto Auction, Gibsonia, Pa.; Arena Auto Auction, Chicago, and Big H Auto Auction, Houston.

Oct. 1—Dallas Auto Auction, Dallas.

Oct. 2—Golden Gate Aut Auction, Fremont, Calif., and Hatfield Auto Auction, Hatfield, Pa.

Oct. 3—Aptco Auto Auction, Taylor, Mich., Floyd Hauhe Auto Auction, Bridgeton, Mo.

Oct. 8—Denver Auto Auction, Englewood, Colo., and Florida Auto Auction of Orlando, Orlando.

Oct. 9—Northstar Auto Auction, Shakopee, Minn., and Brasher's Salt Lake Auto Auction, Salt Lake City.

Oct. 10—Nashville Auto Auction, Nashville.

Oct. 15—Southern Auto Auction, E. Windsor, Conn., and South Seattle Auto Auction, Kent, Wash.

Oct. 16—Clanton's Auto Auction, Darlington, S.C., and Indianapolis Auto Auction, Indianapolis.

**Used Car Sales**
**Auction Averages**

| | |
|---|---|
| Sept. 1985 | $4,883 |
| Month ago | $5,172 |
| Year ago | $4,894 |

**Model Breakdown**
**Auction Averages**

| | SEPT., 1985 | AUGUST, 1985 | JULY, 1985 |
|---|---|---|---|
| 1985 .... | $10,176 | $11,068 | $10,804 |
| 1984 .... | $7,430 | $7,762 | $7,727 |
| 1983 .... | $6,177 | $5,923 | $5,971 |
| 1982 .... | $4,860 | $5,094 | $5,326 |
| 1981 .... | $3,991 | $4,228 | $4,141 |
| 1980 .... | $3,008 | $3,165 | $3,245 |
| 1979 .... | $2,519 | $2,585 | $2,590 |
| 1978 .... | $1,848 | $2,099 | $2,139 |
| Overall Average | $4,883 | $5,172 | $4,315 |

### Evansville auction offers odometer guarantee

EVANSVILLE, Ind.—Evansville Auto Auction, Inc., is providing dealers with an odometer guarantee.

Evansville said its odometer policy "is needed to give our buying dealers the confidence that the vehicles they are buying are showing the honest mileage."

### For visiting VIPs

American Custom Coachworks, Ltd., Beverly Hills, Calif., custom-built this limousine for the Frontier Hotel and Casino in Las Vegas. The limo, to be used to shuttle VIPs, is a Lincoln Town Car stretched 56 inches. It features a bar, TV, VHS, telephone, dual air conditioning and heating systems, dark windows and hors d'oeuvre compartment, the company said.

# Five dealers break ground for Stockton Auto Center

STOCKTON, Calif.—Ground has been broken for Stockton Auto Center, a 75-acre planned real estate development designed for automotive sales.

The five first auto dealers for the center are: E.J. (Woody) Woods, Stockton Datsun; Paul Umdenstock, Big Valley Ford; Jay Friedman, Valley Volkswagen; John Schiavo, Pacific Valley Motors, and Bob Byington, Stockton Dodge.

The center is scheduled to be completed in January, 1986. Plans call for other dealers to join the five original dealerships.

The center will have large, landscaped common areas, test tracks, a financing center, a children's play area and a recreation hall.

The center will also include support businesses such as auto parts stores, muffler shops and insurance agencies.

The auto center project came into being last November, when the five dealers, through a citywide election, altered a growth-limitation law to include the 75-acre complex.

# used-car auction directory

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FLORIDA


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GM

275 UNITS

**GENERAL MOTORS OFFICIAL "BRASS HAT" AUCTION SALE**

*FOR GENERAL MOTORS DEALERS ONLY*

**10:00 A.M. START**

175 — mostly '85's "BRASS HATS"
70 — 1984 model, OFF-LEASE UNITS
25 — RETAIL OFF-LEASE UNITS
Very low mileage, loaded w/options, G.M. owned vehicles

300 UNITS

**CHRYSLER FACTORY SALE**

*FOR CHRYSLER DEALERS ONLY*

**10:00 A.M. START**

Mostly 1985 model Chrysler Corporation and Florida Daily Rental Units

*CHRYSLER PAID "TRANSPORTATION ASSISTANCE"*

on every purchase (up to $250.00 @) except for a few non-program Fifth Avenues

***PLEASE JOIN US FOR BREAKFAST AND VEHICLE INSPECTION AT 8:00 A.M.***

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***A SPECIAL CONSIGNMENT OF FLORIDA DAILY RENTALS***

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***ALL DEALERS WELCOME***

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800 PLUS UNITS

A BONU$ CHECK from $50.00 to $250.00 will be paid on EVERY UNIT PURCHASED, based on the distance between your dealership and the auction. Only purchases from this special group will receive the TRANSPORTATION BONU$ PAYMENTS. Examples are:

| | | | | | |
|---|---|---|---|---|---|
| Orlando $ 50 | Miami $100 | Columbia $150 | New Orleans $150 | Evansville $200 | Chicago $250 |
| Tampa $ 50 | Tallahassee $100 | Atlanta $150 | Roanoke $150 | Little Rock $200 | Cleveland $250 |
| West Palm $100 | Savannah $100 | Charlotte $150 | Lexington $200 | New York City $250 | Detroit $250 |

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COX Communications, Inc.

**For first time in 13 weeks**

# Car output climbs above 170,000

Since the end of June, auto production has been below the 170,000 mark, due mainly to model changeover and vacations. But last week's estimated output climbed to normal levels.

Last week's expected production of 173,592 cars was up 9.80 percent from the previous week's 158,101.

Last week's output was 6.10 percent more than the year-ago week's 163,616.

So far this year, 6,185,126 cars have been assembled, 5.15 percent more than the 5,882,303 completed at this point last year.

Last week's estimated auto output was shared as follows: General Motors, 58.21 percent; Ford Motor Co., 19.47 percent; Chrysler Corp., 16.59 percent; American Motors, 1.58 percent; Volkswagen of America, 1.35 percent; New United Motor Mfg., Inc., 1.09 percent; Honda of America Mfg. Co., 0.97 percent, and Nissan Motor Mfg. Co., U.S.A., 0.74 percent.

GM plants in Pontiac (G-cars); Detroit; Janesville, Wis.; Lordstown, O.; Wentzville, Mo.; Detroit-Hamtramck, and Lansing (Nos. 1 and 2) worked two overtime shifts on Saturday (Sept. 28).

Ford has scheduled daily overtime this week (Sept. 30) at its plants in Chicago; Dearborn; Edison, N.J.; Lorain, O.; Wayne, Mich., and Wixom, Mich.

Saturday (Oct.7) overtime is slated at Ford plants in Chicago, Dearborn and Lorain.

Chrysler employes worked Saturday (Sept. 28) overtime at the Jefferson (Detroit) and Newark (Del.) plants.

Daily overtime is scheduled this week at Chrysler's Newark and St. Louis (Nos. 1 and 2) plants.

Ford's Lorain plant resumed production last Monday (Sept. 23) after settlement of a two-week strike over health and safety grievances. The plant assembles Thunderbird and Cougar.

# Emissions tests to begin in 3 Detroit-area counties

Motorists in the Detroit metropolitan area will begin receiving notification this fall of a new auto exhaust testing program being established to bring the region into compliance with federal air pollution laws.

Most cars and light trucks in the southeastern Michigan counties of Wayne, Oakland and Macomb will be tested annually for exhaust pollution under the program. After Jan. 1, 1986, proof of testing will be required before license plates or tabs are issued by the Michigan Secretary of State's office.

Approximately 1.9 million of the 2.4 million cars and light trucks registered to addresses in the region will be tested annually. About 20 percent are expected to fail the tailpipe test, but owners of those vehicles will not be required to pay more than $63 toward necessary repairs.

However, if emissions control equipment has been tampered with, the motorist will be responsible for correcting the tampering, regardless of cost, if it is needed to pass the test.

Southeastern Michigan must implement tests because the region did not meet federal air quality standards by a 1982 deadline. States which sought an extension of the deadline had to commit to auto exhaust testing.

Michigan officials initially resisted the program, but the federal EPA has threatened to block new industrial construction and cut federal highway money unless the program is implemented. Tailpipe tests have been instituted in 47 urban areas in 27 states.

In early October, the nearly 110,000 drivers with commercial plates in the Detroit metropolitan area will begin receiving license plate renewal notices that include information about exhaust testing. Motorists with non-commercial plates who must obtain plates or tabs in January will begin receiving mail renewal forms in mid-November.

Excluded from the program are vehicles more than nine years old, vehicles sold as new in the last 12 months, diesel or electric-powered vehicles, vehicles with a GVW rating of 8,500 pounds or more, motorcycles and mopeds and vehicles owned by persons receiving Medicaid and General Assistance.

## '86 Detroit Grand Prix to run on downtown streets

DETROIT.—The 1986 Detroit Grand Prix will be run of on the streets of downtown Detroit, June 20-22.

The sponsors of the Formula One race said it will not conflict with various downtown building projects.

# Truck production up 1.70 pct. at 71,678 units

Domestic manufacturers estimated production of 71,678 trucks last week, up 1.70 percent over the previous week's 70,481 and 7.32 percent more than the year-ago week's 66,786.

So far this year, 2,579,588 units have been assembled, 10.54 percent more than the 2,333,552 completed last year at this point.

Ford Motor Co.'s plant in Lorain, O., resumed production last Monday (Sept. 23) after settlement of a two-week strike over health and safety grievances.

General Motors scheduled overtime Saturday (Sept. 28) at its plants in Janesville, Wis., and St. Louis.

Ford plants in Kansas City; Louisville; Loraine, O.; Wayne, Mich., and Norfolk are scheduled for daily overtime this week (Sept. 30).

Ford also has scheduled Saturday (Oct. 7) overtime at the Lorain and Wayne plants.

Chrylser Corp.'s Warren plant worked overtime Saturday (Sept. 28).

The plant is also scheduled for two nine-hour daily shifts this week.

# Output in Canada down for both cars and trucks

Scheduled output of 20,662 cars in Canada last week was down 5.93 percent from the previous week's 21,965 but was about even with (up 0.98 percent) the year-ago week's 20,462.

So far this year, 788,339 cars have been assembled, down 1.07 percent from the 796,869 built at this point last year.

Truck makers pegged production at 17,010 units last week, 9.74 percent lower than the previous week's 18,845, and 5.51 percent lower than the year ago week's 18,002.

Year-to-date, 639,483 trucks have been assembled, 5.54 percent more than the 605,888 built last year at this time.

Ford of Canada President Kenneth Harrigan said he expects the company's plant at St. Thomas, Ont., to continue to produce full-size Crown Victoria and Grand Marquis models through 1991.

## Silver anniversary

SAGINAW, Mich.—Lowell H. Martin, owner of Martin Chevrolet Sales, Inc., has received a 25-year-dealer award.

## CANADIAN CAR PRODUCTION

| | Week Ended Sept. 28, 1985 | Week Ended Sept. 29, 1984 | Week Ended Sept. 21, 1985 | Sept. to Date | Jan. 1 to Sept. 29, 1984 | Jan. 1 to Sept. 28, 1985 |
|---|---|---|---|---|---|---|
| AMERICAN MOTORS | 410 | 610 | 410 | 1,558 | 16,972 | 8,279 |
| FORD MOTOR | 10,728 | 5,125 | 8,909 | 38,675 | 320,447 | 370,735 |
| GENERAL MOTORS | 9,299 | 11,502 | 12,534 | 46,583 | 451,664 | 401,902 |
| VOLVO | 225 | 225 | 112 | 742 | 7,786 | 7,423 |
| Total Cars, Canada | 20,662 | 20,462 | 21,965 | 87,558 | 796,869 | 788,339 |

## U.S. TRUCK PRODUCTION☆

| | Week Ended Sept. 28, 1985 | Week Ended Sept. 29, 1984 | Week Ended Sept. 21, 1985 | Sept. to Date | Jan. 1 to Sept. 29, 1984 | Jan. 1 to Sept. 28, 1985 |
|---|---|---|---|---|---|---|
| CHEVROLET | 23,075 | 21,069 | 24,387 | 93,185 | 744,065 | 886,802 |
| DODGE | 4,700 | 4,120 | 5,551 | 19,389 | 154,087 | 162,887 |
| FORD | 25,922 | 26,207 | 21,038 | 90,017 | 884,178 | 881,851 |
| GMC | 6,031 | 7,071 | 7,207 | 26,253 | 241,767 | 275,775 |
| INTERNATIONAL | 1,560 | 1,568 | 1,531 | 5,920 | 57,069 | 57,132 |
| JEEP | 5,800 | 3,607 | 6,105 | 22,659 | 140,303 | 161,992 |
| NISSAN | 2,540 | 2,094 | 2,612 | 9,747 | 71,123 | 80,716 |
| AM GENERAL | 50 | 50 | 50 | 190 | 1,960 | 1,880 |
| MISCELLANEOUS | 2,000 | 1,000 | 2,000 | 7,750 | 39,000 | 70,553 |
| Total Trucks, U.S. | 71,678 | 66,786 | 70,481 | 275,310 | 2,333,552 | 2,579,588 |

## CANADIAN TRUCK PRODUCTION

| | Week Ended Sept. 28, 1985 | Week Ended Sept. 29, 1984 | Week Ended Sept. 21, 1985 | Sept. to Date | Jan. 1 to Sept. 29, 1984 | Jan. 1 to Sept. 28, 1985 |
|---|---|---|---|---|---|---|
| CHRYSLER | 8,796 | 8,530 | 9,236 | 34,318 | 268,903 | 299,429 |
| FORD | 3,648 | 3,182 | 3,387 | 13,373 | 114,231 | 121,516 |
| GENERAL MOTORS | 4,336 | 6,072 | 5,990 | 20,530 | 216,592 | 210,770 |
| INTERNATIONAL | 230 | 218 | 232 | 646 | 6,162 | 7,768 |
| Total Trucks, Canada | 17010 | 18002 | 18845 | 68867 | 605888 | 639483 |
| N. American Trucks | 88688 | 84788 | 89326 | 344177 | 2939440 | 3219071 |

☆—Now includes window van production. *—Estimated
Jeep includes commercial only. AM General includes government-destined vehicles.
Miscellaneous includes estimates for Mack, Volvo-White, Kenworth, Peterbilt, Freightliner, Mercedes-Benz, etc.
Monthly estimates may contain error of one or two units due to rounding.

## U.S. CAR PRODUCTION

| | Week Ended Sept. 28, 1985 | Week Ended Sept. 29, 1984 | Week Ended Sept. 21, 1985 | Sept. to Date | Jan. 1 to Sept. 29, 1984 | Jan. 1 to Sept. 28, 1985 |
|---|---|---|---|---|---|---|
| AMERICAN MOTORS | 2,750 | 4,652 | 2,880 | 10,802 | 149,713 | 86,654 |
| Renault Total | 2,750 | 4,652 | 2,880 | 10,802 | 149,713 | 86,654 |
| Alliance | 2,000 | 3,391 | 1,947 | 7,564 | 84,382 | 55,860 |
| Encore | 750 | 1,261 | 933 | 3,238 | 65,331 | 30,794 |
| CHRYSLER CORP. | 28,800 | 28,366 | 28,610 | 105,019 | 915,885 | 980,729 |
| Plymouth Total | 8,300 | 9,306 | 8,238 | 30,568 | 275,267 | 285,009 |
| Horizon | 2,800 | 3,797 | 2,827 | 10,917 | 119,248 | 109,993 |
| Reliant | 4,200 | 4,126 | 4,111 | 14,943 | 128,985 | 125,680 |
| Caravelle | 1,100 | 980 | 1,065 | 3,730 | 11,116 | 36,450 |
| Gran Fury | 200 | 403 | 235 | 978 | 15,918 | 12,886 |
| Chrysler Total | 10,100 | 8,481 | 9,435 | 34,192 | 301,943 | 320,552 |
| LeBaron | 2,000 | 2,335 | 1,534 | 5,128 | 87,826 | 69,413 |
| LeBaron GTS | 2,700 | 0 | 2,683 | 10,008 | 0 | 73,422 |
| Laser | 1,100 | 1,646 | 1,265 | 4,351 | 52,991 | 40,605 |
| New Yorker/E-Class | 1,600 | 1,375 | 1,221 | 4,900 | 72,217 | 50,649 |
| Fifth Avenue | 2,700 | 3,125 | 2,732 | 9,805 | 88,909 | 86,463 |
| Dodge Total | 10,400 | 10,579 | 10,937 | 40,259 | 338,675 | 375,168 |
| Omni | 2,500 | 3,457 | 2,682 | 9,804 | 112,012 | 106,316 |
| Aries | 3,400 | 3,379 | 3,616 | 13,552 | 102,570 | 105,821 |
| Daytona | 1,000 | 1,216 | 984 | 3,603 | 39,683 | 36,494 |
| Dodge 600 | 1,400 | 1,720 | 1,411 | 4,977 | 56,526 | 49,128 |
| Lancer | 1,600 | 0 | 1,640 | 6,050 | 0 | 50,653 |
| Diplomat | 500 | 807 | 604 | 2,273 | 27,884 | 26,756 |
| FORD MOTOR | 33,792 | 37,728 | 27,015 | 114,288 | 1,310,366 | 1,235,079 |
| Ford Division | 24,232 | 23,812 | 19,742 | 81,356 | 849,391 | 825,204 |
| Escort | 8,509 | 7,435 | 7,531 | 28,457 | 260,029 | 250,194 |
| Mustang | 4,106 | 2,792 | 4,749 | 16,774 | 102,175 | 135,489 |
| LTD | 3,800 | 4,722 | 4,544 | 15,758 | 167,376 | 158,665 |
| Taurus*** | 0 | 0 | 0 | 0 | 0 | 0 |
| Thunderbird | 3,827 | 3,000 | 0 | 7,066 | 111,149 | 129,991 |
| Crown Victoria | 0 | 1,744 | 0 | 0 | 62,077 | 7,122 |
| EXP | 0 | 1,251 | 0 | 0 | 29,877 | 3,863 |
| Tempo | 3,990 | 2,868 | 2,918 | 13,301 | 116,708 | 139,880 |
| L-M Division | 9,560 | 13,916 | 7,273 | 32,932 | 460,975 | 409,875 |
| Mercury Total | 6,658 | 10,340 | 4,353 | 22,186 | 336,499 | 289,614 |
| Lynx | 1,475 | 1,721 | 1,356 | 5,014 | 52,511 | 54,154 |
| Capri | 371 | 349 | 444 | 1,527 | 12,224 | 14,261 |
| Marquis | 1,210 | 2,855 | 891 | 4,975 | 86,879 | 76,962 |
| Sable*** | 0 | 0 | 0 | 0 | 0 | 0 |
| Cougar | 2,082 | 2,477 | 0 | 4,701 | 84,466 | 94,986 |
| Grand Marquis | 1,520 | 1,876 | 1,662 | 3,182 | 69,915 | 7,915 |
| Topaz | 0 | 1,062 | 0 | 2,787 | 30,504 | 41,316 |
| Lincoln Total | 2,902 | 3,576 | 2,920 | 10,746 | 124,476 | 120,261 |
| Continental | 402 | 643 | 405 | 1,487 | 28,044 | 19,378 |
| Lincoln | 2,177 | 2,536 | 2,191 | 8,055 | 75,641 | 87,537 |
| Mark VI/VII | 323 | 397 | 324 | 1,204 | 20,791 | 13,346 |
| GENERAL MOTORS | 101,040 | 89,545 | 91,929 | 350,360 | 3,348,016 | 3,640,112 |
| Buick Total | 21,359 | 20,457 | 19,128 | 74,991 | 734,566 | 755,979 |
| Skylark | 0 | 2,392 | 0 | 0 | 80,949 | 40,953 |
| Skyhawk | 1,606 | 1,813 | 1,582 | 6,154 | 106,556 | 79,319 |
| Somerset Regal | 2,935 | 1,676 | 2,997 | 11,515 | 5,662 | 93,110 |
| Century | 6,951 | 4,914 | 7,220 | 26,375 | 167,559 | 206,811 |
| Regal | 4,225 | 2,919 | 2,947 | 13,051 | 141,524 | 101,777 |
| LeSabre/Electra(rwd) | 484 | 4,179 | 493 | 1,832 | 154,388 | 89,826 |
| LeSabre (fwd) | 352 | 0 | 59 | 420 | 0 | 420 |
| Riviera | 163 | 1,048 | 46 | 268 | 37,675 | 45,563 |
| Electra(fwd) | 4,643 | 1,516 | 3,784 | 15,376 | 40,253 | 96,200 |
| Cadillac Total | 5,981 | 8,157 | 3,577 | 15,847 | 245,611 | 259,341 |
| Cimarron | 729 | 411 | 108 | 841 | 13,369 | 19,917 |
| Seville | 140 | 675 | 42 | 230 | 28,293 | 27,459 |
| Eldorado | 179 | 1,501 | 49 | 317 | 56,692 | 52,071 |
| Cadillac (rwd) | 680 | 1,618 | 291 | 1,213 | 92,354 | 31,262 |
| DeVille (fwd) | 4,253 | 3,952 | 3,087 | 13,246 | 54,903 | 128,632 |
| Chevrolet Total | 35,965 | 26,551 | 33,579 | 123,150 | 1,157,803 | 1,227,687 |
| Chevette | 2,472 | 2,892 | 2,499 | 9,307 | 139,689 | 120,223 |
| Cavalier | 10,894 | 8,735 | 10,807 | 38,533 | 317,914 | 371,938 |
| Celebrity | 5,760 | 4,654 | 5,748 | 20,728 | 217,981 | 205,881 |
| Camaro | 4,886 | 2,999 | 4,431 | 15,550 | 183,097 | 158,051 |
| Citation | 0 | 642 | 0 | 0 | 85,671 | 26,697 |
| Malibu/El Camino | 0 | 305 | 0 | 0 | 18,729 | 1,199 |
| Monte Carlo | 2,768 | 2,064 | 2,820 | 10,713 | 79,724 | 105,254 |
| Chevrolet | 8,185 | 3,757 | 6,533 | 25,370 | 90,181 | 201,716 |
| Corvette | 1,000 | 503 | 741 | 3,549 | 24,817 | 34,728 |
| Oldsmobile Total | 21,128 | 21,593 | 19,914 | 75,228 | 806,874 | 895,131 |
| Omega | 0 | 0 | 0 | 0 | 29,289 | 0 |
| Firenza | 1,147 | 1,393 | 1,091 | 4,263 | 53,943 | 47,861 |
| Cutlass Supreme | 5,459 | 5,573 | 4,593 | 19,080 | 196,874 | 174,263 |
| Cutlass Ciera | 6,571 | 3,568 | 7,213 | 23,491 | 192,172 | 265,964 |
| 88/96 (rwd) | 1,065 | 5,367 | 488 | 1,939 | 243,301 | 161,184 |
| 88 (fwd)*** | 0 | 0 | 0 | 0 | 0 | 0 |
| Olds 98 | 3,855 | 2,805 | 3,810 | 14,474 | 51,892 | 107,281 |
| Calais | 2,915 | 2,083 | 2,686 | 11,772 | 6,458 | 111,771 |
| Toronado | 116 | 804 | 33 | 209 | 32,945 | 27,347 |
| Pontiac Total | 16,607 | 12,787 | 15,731 | 61,144 | 403,162 | 501,974 |
| Acadian** | 0 | 119 | 545 | 1,546 | 11,435 | 10,825 |
| 2000 Sunbird | 3,418 | 2,763 | 2,538 | 10,909 | 110,774 | 105,911 |
| 1000 | 1,190 | 748 | 1,176 | 4,533 | 30,901 | 21,185 |
| Firebird | 2,588 | 1,555 | 2,249 | 8,180 | 85,018 | 84,320 |
| Phoenix | 0 | 0 | 0 | 0 | 14,116 | 0 |
| 6000 | 715 | 0 | 680 | 2,654 | 0 | 38,891 |
| Grand Prix/Bonneville | 0 | 0 | 0 | 0 | 29,733 | 0 |
| Parisienne | 2,546 | 3,827 | 2,502 | 9,354 | 26,986 | 59,072 |
| Fiero | 2,400 | 2,822 | 2,413 | 9,134 | 90,301 | 84,036 |
| Grand Am | 3,750 | 953 | 3,628 | 14,834 | 3,898 | 97,734 |
| HONDA | 1,680 | 2,739 | 2,223 | 10,000 | 100,868 | 112,824 |
| NISSAN | 1,280 | 0 | 1,282 | 4,828 | 0 | 24,404 |
| NUMMI (Nova)* | 1,900 | 0 | 1,900 | 7,075 | 0 | 34,749 |
| VOLKSWAGEN | 2,350 | 586 | 2,262 | 6,739 | 57,455 | 70,575 |
| Total Cars, U.S. | 173,592 | 163,616 | 158,101 | 609,111 | 5,882,303 | 6,185,126 |
| Total Cars, Canada | 20,662 | 20,462 | 21,965 | 87,558 | 796,869 | 788,339 |
| N. American Cars | 194,254 | 184,078 | 180,066 | 696,669 | 6,679,172 | 6,973,465 |
| N. American Trucks | 88,688 | 84,788 | 89,326 | 344,177 | 2,939,440 | 3,219,071 |
| North American Cars and Trucks | 282,942 | 268,866 | 269,392 | 1,040,846 | 9,618,612 | 10,192,536 |

*—Revised estimate.
**—All Acadians are built for sale in Canada.
***—No production reported at this time.
Monthly estimates may contain error of one or two units due to rounding.

C2700-1


# Automotive News

October 7, 1985



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# More mergers, joint ventures seen for future

By Michelle Krebs
Financial Editor

The bloody battle among auto makers for dominance in market share and for profits in Western Europe resembles the shape of things to come in the U.S., according to the latest Automotive News World Outlook.

By the early 1990s, the North American market will be filled with more players than at any time in recent history. And they will have too much capacity in a market where demand is not forecasted to grow significantly. The result will be a vicious battle for market share which, in turn, will trigger a sea of red ink on auto makers' balance sheets.

A likely avenue out of the gridlock will be through mergers and more joint ventures among competitors as is beginning to take place in Western Europe, the World Outlook indicates. The World Outlook is a cooperative service of Data Resources, Inc. (DRI), and Automotive News.

"The U.S. industry is clearly heading for the situation of overcapacity and will have to live with the consequences of that," said John Lawson, DRI's London-based economist. "The current profitability of the industry can't be durable."

The World Outlook estimates that total North American car production will amount to 8.5 million units by 1990, about 4 percent less than in 1984.

However, automobile production capacity in the U.S. and capacity in foreign countries which is aimed at the U.S. will increase by about 15 percent. U.S. auto makers are gearing up production capacity, and Japanese companies are building brand new North American facilities.

Car demand, meanwhile, is not expected to keep pace with production capacity. Total U.S. car sales in 1990 are expected to be about 11.6 million units, an increase of only 7 percent over 1985's 10.8 million units.

"Worldwide capacity will be focused on North America," said John Hammond, DRI's U.S.-based economist. "The question becomes, how do you make room for everybody? How do you break out of the gridlock?"

By 1992, General Motors will have U.S. car production capacity of 4 million units per year, excluding capacity with its Japanese and South Korean partners. Ford Motor Co. will have car capacity of about 2 million units per year, excluding its foreign partners.

Four companies, including


Please turn to Page 62, Col. 1


## Hungry hole

Jacksonville Journal

**Sinkhole swallows vehicles, building at Florida deal**

A sinkhole, which was 40 yards wide and 30 feet deep, swallowed two trucks, two cars, a motorcycle and a service building one night last week at Steve Hull Chevrolet, Jacksonville, Fla. Here, a truck teetering on the edge of the hole is pulled to safety. The building which slipped into the hole was a large carport-like structure under which workers wrote service orders and did minor repairs.

# Ford, GM win lowering of '86 MPG standard

By Helen Kahn
Washington Bureau Chief

WASHINGTON.—NHTSA has lowered the fuel-economy standard for 1986 cars from 27.5 MPG to 26 MPG. That is the same as the standard for 1983 models and is the lowest allowed for 1986 under the 1975 law.

The agency reacted specifically to petitions filed by Ford Motor Co. and General Motors, but the decision also provides relief requested by makers of European luxury cars.

The new standard provides flexibility for all and allows the fuel-efficient Japanese makers to rack up even more credits although so far they have not needed to use any.

In any case, hundreds of millions of dollars in fines from GM and Ford alone have been avoided, and the U.S. Treasury is the loser. On the other hand, jobs—said to number in the tens of thousands—have been saved.

Ford Vice President Helen O. Petrauskas called the decision "good public policy" in recognizing that not changing the standard would disrupt production and threaten jobs while adding "little, if anything, to petroleum conservation."

She said she hopes this is the first of two steps since Ford needs relief also for 1987-89 "if customer demand and gasoline prices remain relatively stable."

A GM spokesman made the same points: The NHTSA action is in accord with "both the law and the real world," but a similar adjustment for future years is "equally important."

Chrysler, which has opposed any lowering of the standard, said it was "extremely disappointed." It added: "We think the standard is good for America and the


Please turn to Page 58, Col. 1


# Price boost is $373 on U.S. cars

By John K. Teahen Jr.
Managing Editor

Domestic auto makers have raised car prices an average of $373 for 1986, an Automotive News analysis discloses. The figure is for comparably equipped 1986 and 1985 models.

At introduction time a year ago, the average increase was $236.

The 1986 average includes the offerings of the four "home" manufacturers plus the models built in the U.S. by Honda (Accord), Volkswagen (Golf) and Nissan (base Sentra two-door).

By companies, the increases are: General Motors, $400; Ford Motor


Please turn to Page 62, Col. 4


**And model-year total tops 11 million**

# September sales set a record

By Edward Lapham
Marketing Editor

Domestic auto makers last month posted record September new-car sales of 839,382 units and finished the 1985 model year on a winning note.

The old September sales record of 755,233 was set in 1971, before the OPEC oil embargo, when General Motors, Ford Motor Co., Chrysler Corp. and American Motors were the only major U.S. producers.

The final 10-day period, with retail deliveries totaling 314,120 units, was not a record although the financing incentives, which had produced records in the prior three periods, boosted the period total 59 percent above the 1984 mark of 197,585.

The period record of 485,631 was set in boom year 1972 at a time when all of the four domestic producers introduced their new models in time to be included in the late-September tally.

Total 1985 model-year sales made from Oct. 1, 1984, through Sept. 30, 1985, including domestic and import deliveries, were 11,071,284, up 7.25 percent from 10,322,411 in the 1984 model year.

The domestic model-year total of 8,389,649 was up 6 percent from 7,914,732 the preceding year, and was the highest tally since the 1979 model year.

The import total for the 12-month model-year period was up 11.38 percent to 2,681,635 from 2,407,679.

Import penetration in the 1985 model year rose to 24.22 percent from 23.33 percent in the 1984 model year.

Among the domestic producers, Honda posted the largest gain, up 27.7 percent. Chrysler was up 20.9 percent, Ford was up 13.8 percent and GM just barely pushed past the break-even point with a year-to-year gain of 0.8 percent.

Volkswagen's model-year sales total declined 14.1 percent and AMC fell 32 percent.

There was also a shift in market share among domestic makers. Chrysler's domestic sales tally increased to 13.64 percent from 11.96 percent. Ford's share rose to 25.87 percent from 24.09 percent the previous year, and Honda's penetration rose to 1.78 percent from 1.48 percent. GM, AMC and VW all lost market share.

Among the individual domestic marketing units, there were both winners and losers. Buick, Cadillac, Oldsmobile, AMC, Renault and VW were the makes which failed to better their 1984 model-year totals; all the rest posted gains.

The combined domestic-import September sales total of 1,076,051 was up 46.6 percent over the year-ago month, and monthly sales rec-


Please turn to Page 60, Col. 1


# breaking news

## Jackling named to high BMW post

MONTVALE, N.J.—BMW of North America has appointed Michael Jackling senior vice president—operations. He formerly was national field operations manager for Jaguar Cars, Inc. BMW said Jackling will form a new operations group within the company with the vice presidents responsible for regional operations/sales, service, parts and motorcycle operations reporting to him.

## Chrysler workers seek OK to sell stock

DETROIT.—In contract negotiations with Chrysler Corp., the UAW is demanding that its members be allowed to cash in shares of common stock held by the Chrysler Employee Stock


See BREAKING NEWS, Page 8, Col. 3



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He pleads innocent to 15 federal charges

# DeLorean trial date scheduled Nov. 18

By Edward Lapham
Marketing Editor

Former auto maker John Z. DeLorean came home to Detroit last week and pleaded innocent to all 15 counts in the Sept. 20 federal grand jury indictment.

The plea was entered by attorney Howard Weitzman, one of the lawyers who represented DeLorean when he was acquitted of all charges in the Los Angeles federal drug-trafficking trial in 1984.

DeLorean was released on $1 million unsecured bond.

Under the terms of his release, DeLorean must check in once a week with the Pretrial Services Agency and keep them apprised of his travel schedule.

He is not allowed to leave the country without permission.

Following his arraignment before Federal Magistrate Virginia Morgan, DeLorean, his attorneys and federal prosecutors appeared at a pre-trial conference before U.S. District Judge Julian A. Cooke Jr., who will hear the case.

A preliminary trial date of Nov. 18 was set. However, both prosecution and defense attorneys indicated procedural matters are likely to push back the trial date, perhaps until next spring or later.

Following the official proceedings, DeLorean and lawyer Weitzman appeared on the courthouse steps for an impromptu press conference and photo session with a large contingent of reporters.

As he did in Los Angeles, DeLorean let Weitzman do most of the talking at the press conference. The lawyer again maintained DeLorean's innocence.

The government has charged DeLorean with racketeering, income tax evasion and a number of other charges relating to $17.65 million which disappeared from the DeLorean Motor Co. sports-car project in 1978 and 1979.

In addition to denying the charges, Weitzman also said he did not consider a 10-page order issued by District Chief Judge John Feikens a "gag order."

The ex parte order, entered by the U.S. Attorney's office the day of the indictment, admonished lawyers from both sides to conduct themselves with appropriate professional demeanor.

Although DeLorean let his lawyer do most of the talking, he did at one point quip, "It was not the homecoming I was looking forward to."

Nonetheless, there was every indication the Detroit trial could turn into the same kind of overblown media event as the Los Angeles trial.

DeLorean was dressed in his fa-

Please turn to Page 58, Col. 3

Joe Wilsons

**Media cover DeLorean homecoming**

Former auto maker John Z. DeLorean and his lawyers held an impromptu press conference on the steps of the Detroit Federal Building following his arraignment on federal racketeering and fraud charges. "It was not the homecoming I was looking forward to," DeLorean quipped. Press coverage made it a media event.

# Jeep CJ won't move to Canada for finale

By Richard Johnson
Detroit Reporter

BRAMPTON, Ont.—American Motors will phase out its venerable Jeep CJ model next year, but company officials have decided to build it out in Toledo, not Brampton as was previously planned.

Meanwhile, the company's Jeep YJ replacement, scheduled to be launched in the Canadian plant beginning next spring, is being described by sources as a more-stylish version of the open-bodied CJ.

In addition, company officials said last week that other U.S. states are beginning to stand in line with with proposals should AMC decide to abandon car assembly in Kenosha. Richard Calmes, AMC vice president, personnel and industrial relations, said "five or six" states have approached the company and he acknowledged "some preliminary discussions" with representatives of other states.

AMC President Jose Dedeurwaerder discussed plans for CJ last week during a reception at a new $675 million assembly plant under construction in the Brampton area.

Several weeks ago, AMC announced plans to move CJ-7 production from Jeep assembly operations in Toledo to Brampton, where the four-wheel-drive Eagle is now built. The shift to Canada

Please turn to Page 8, Col. 4

# Japanese say yen rise may boost prices

By Frank Gawronski
Tokyo Bureau Chief

TOKYO.—If the yen increases further against the dollar, Japanese automobile manufacturers may have to raise prices of the vehicles they sell in the U.S., according to Takashi Ishihara, president of the Japan Automobile Manufacturers Assn.

Ishihara, who also is chairman of Nissan Motor Co., said profits of Japanese auto makers will decline in the last half of fiscal 1985, ending next March 31, as a result of the recent sharp appreciation of the yen against the U.S. dollar.

Ishihara said Nissan alone will record an exchange loss of about 60 billion yen ($27,548,209) if the yen's exchange rate goes up by an average 20 yen in the latter half of fiscal 1985.

He also said U.S. automobile manufacturers "may file dumping charges against us if the dollar prices of Japanese cars fall in accordance with the yen's appreciation."

Tsutomu Ohshima, Toyota Motor Corp. senior managing director, said Toyota loses 4 billion yen every time the Japanese currency goes up one yen against the dollar.

Asked if Toyota would increase prices if the yen continues to appreciate against the dollar, Ohshima said the company has not planned that far ahead.

Composite standard of 20.5 set for benefit of Ford

# NHTSA eases truck MPG rule

By Helen Kahn
Washington Bureau Chief

WASHINGTON.—NHTSA has set new light-truck fuel-economy standards for 1987 models at a level that can be met by Ford Motor Co., whose light-truck fleet is the least fuel-efficient.

The composite standard is 20.5 MPG. The separate standard for 4x2s is 21.0 MPG, and the standard for 4x4s is 19.5 MPG.

That compares with the 1986 light-truck CAFEs: 20 MPG composite; 20.5 MPG for 4x2s and 19.5 MPG for 4x4s. Those were also set for the benefit of Ford.

The original 1985 light-truck standard had a composite CAFE of 21.0 MPG. Ford petitioned for a reduction of the 1985 and presumed 1986 composite levels of 21.0 on grounds that market demand would make it miss the standard by 1.5 MPG.

Meanwhile, the Center for Auto Safety had petitioned for higher standards in October, 1984. NHTSA rolled back the 1985 composite standard to 19.5 MPG and set a new 1986 standard of 20.0 MPG, a level which Ford is expected to meet. The arguments used in that NHTSA document are basically the same as those used in setting the new 1987 composite standards.

The Center for Auto Safety is already in court over NHTSA's "unreasonable delay" in setting the 1987 light-truck standard, which the law says is to have 18 months leadtime. The NHTSA anouncement on Oct. 2 gives barely 12 months leadtime.

Separately, the center has also sued over the 1985 and 1986 light-truck economy standards, which were lowered in response to a petition by Ford. The CAS, which is joined by the Environmental Policy Institute, Public Citizen, and the Union of Concerned Scientists, argues that the "maximum feasible" level should not be that of one "laggard" truck maker.

In March, 1984, NHTSA had proposed a composite standard for 1987 light trucks in the range of 20.1 to 22.5 MPG.

The issues in setting the 1987 standard are much the same as in the rollback in the 1986 passenger-car CAFE and in the rollback of the 1985 light-truck CAFE.

Emphasis is placed on consumer demand for larger engines—although in the case of trucks, load-carrying capacity and specific jobs are considered. Change in the price of fuel is also mentioned. Further, some consideration of EPA regulations is given, although in the case of light trucks there is no CAFE adjustment factor.

NHTSA focused on the capabilities of General Motors, Ford and Chrysler Corp. since they account for more than three-fourths of light-truck sales. Moreover, since the domestic companies provide larger trucks and vans for commercial purposes, they have a greater problem than the importers.

However, the agency concluded that Ford is the "least capable" and since Ford is the petitioner, its needs must be addressed. NHTSA projected that Ford could achieve an average light-truck CAFE of 20.3 to 21.0 MPG while GM could achieve 21.1 to 22.4

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# GM's '86 warranty expanded to 36/36

General Motors said last week that engine and transmission warranty coverage on its 1986 cars will be expanded to a minimum of 36 months/36,000 miles.

Ford Motor Co. had announced no changes in its warranty at presstime. Chrysler Corp. already has a 5-year/50,000-mile powertrain warranty.

James G. Vorhes, GM vice president in charge of the Customer Sales and Service Staff, said the new warranty extends coverage on major engine, transmission and axle components on both front-drive and rear-drive cars from the current 24-months/24,000-miles (whichever occurs first) to 36 months/36,000 miles.

The basic 12-month/12,000-mile warranty on the entire car remains unchanged.

The expanded warranty applies to the new full-size front-wheel-drive Buick LeSabre and Oldsmobile Delta 88. Warranty coverage for the new Buick Riviera, Oldsmobile Toronado, Cadillac Eldorado and Cadillac Seville will be announced when the cars are introduced later this fall.

Warranty terms remain unchanged on the front-drive Cadillac DeVille and Fleetwood, Buick Electra and Oldsmobile Ninety-Eight models introduced last year. GM said those models, along with the Chevrolet Corvette and Pontiac STE, already have warranties equal to or better than those cited above.

GM Protection Plan service contracts also have been modified for the 1986 model year to complement the new powertrain warranty coverage.

Similar to the coverage offered on the full-sized Cadillacs, Buicks and Oldsmobiles last year, the new Protection Plan contracts—also called "Major Guard"—will cover "virtually everything on the car" except for normal maintenance items, paint and trim, Vorhes said.

The new plans include several options ranging up to five years with unlimited mileage, GM said.

# 1,000 more Yugos arrive in U.S.; orders top 7,500

MONTVALE, N.J.—A second shipment of Yugos—1,058 vehicles—arrived at the Port of Baltimore from Yugoslavia last week. They joined 500 that arrived in August.

William Prior, president of Yugo America, Inc., the U.S. importer, said the $3,990 three-door hatchback is now being offered by 90 dealers, the majority of which are in the Northeast corridor of the U.S.

The car went on sale Aug. 26 and retail orders have topped 7,500, Prior said. "Dealer-recorded orders with deposits have exceeded original projections, and indicate an annualized sales rate of 100,000 cars.

"We have announced that we will import 40,000 cars in our first year of operation," he said. "It is obvious that supply will not keep up with demand."

Prior said Yugo America is talking with Zastava, the car's manufacturer, about an increase in production capacity.

Current production schedules call for 75,000 cars to be imported into the U.S. in the second year, 110,000 cars in the third and 150,000 in the fourth year.

## Jaguar holds line on 1986 car prices

LEONIA, N.J.—Jaguar has held the line on the prices of its 1986 models.

The prices, unchanged from 1985, are: $32,250 for the Jaguar XJ6 sedan; $35,550 for the Vanden Plas sedan, and $36,000 for the Jaguar XJ-S sports coupe. Prices are at port of entry and do not include dealer preparation charges and transportation.

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60th year—No. 5095

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Will automobiles of the future resemble the PSC1?

# Soft debut for soft PSC1

## *ARG is absent from unveiling of the prototype*

**By Anne Hope**
Special Correspondent

OXFORD, England. — PSC1 stands for Pedestrian Safety Car One and it points the way cars could be going shortly. It is a soft touch automobile — a car kind to pedestrians that it might hit and more likely to injure than kill.

Therefore, one would prefer to be knocked down by PSC1 than by a base or standard Metro car from BL's Austin Rover Group. But ARG kept a low profile when PSC1 was unveiled at the 10th international conference on experimental safety vehicles.

Though ARG was consulted before PSC1 was developed, no one from ARG was at the unveiling in the historic university town of Oxford — and no one was present to confirm or deny rumors that PSC1 features could be incorporated into the Metro replacement.

PSC1, a concept car, was the brainchild of Adrian Hobbs, who at 39 is a senior scientist at Britain's Transport and Road Research Laboratory (TRRL), a British Government agency, at Crowthorne in Berkshire County.

The development of this soft touch car is based on the results of tests by the TRRL in association with ARG.

The PSC1 is developed from a standard Metro modified by Douglas Simpson, a bodywork specialist, of Camberley, Surrey, England, for the TRRL.

The safety features of PSC1 have been validated by extensive crash testing of earlier prototypes.

But neither Hobbs nor anyone from BL at the ESV conference would comment on the rumor that PSC1 was an embarrassment to ARG. For, apparently, the car could give rise to product liability claims from consumers — who might suggest that the standard Metro *isn't* kind to pedestrians.

At the Oxford conference, attended by 475 delegates, 127 papers were presented and PSC1 was not only closely examined but prodded.

It was prodded so much that its hood, deliberately weakened to be soft and therefore kind to pedestrians, was damaged by fists as people thumped it to see just how much it might give.

The PSC1 has an air dam incorporated into its bumper. Ten years ago people would have said that such a spoiler had little boy racer connotations, but today it is accepted as having a useful function and as being a safety feature, commented Hobbs.

The PSC1's front bumper, 8 inches high and 6 inches deep and made of polyurethane foam, deforms when it hits a pedestrian, rather than breaking legs, even when travelling as fast as 25 miles an hour.

The bumper no longer sticks out because the car's hood has been extended 3 inches to soften its front end — to protect an adult pedestrian's pelvis or a child's abdomen.

Compared with a standard Metro, PSC1 has a sloping hood. The hood's frame has been weakened to prevent serious head injuries. The front headlamps will collapse backwards if a pedestrian is struck and the front edges of the fenders will break away.

To prevent a pedestrian's head from being pierced by windshield wiper rods, these are hidden. There was a time when wipers, when not in use, were usually hidden on cars made in the U.S.

But they now usually stand proud, which many would say was a step backward, from a safety point of view.

Unfortunately, PSC1 is simply a one-off. But so many engineers, designers and legislators examined the little car that it seems probable that many of its features will be adapted on upcoming cars including even ARG's Metro replacement.

Though there are only a few styling differences between PSC1 and the standard Metro, all changes to its bodywork were vital from a safety point of view.

ARG delegates at the conference were unwilling to take credit for any of their contributions to the car. And no one at the TRRL would comment on the absence of ARG people from the exhibit area where the car was unveiled and displayed.

# New 309 ready to roll for Peugeot

## *Five-door hatchback fills a gap in lower-medium segment*

The new 309 model rolling out of Poissy, France, will be an even more important car to Automobiles Peugeot than the hot-selling 205. It gives the recovering Peugeot a truly modern competitor in the largest segment of the western European new car market.

That lower-medium group was worth about 3.6 million units last year, or about 35 percent of total. Furthermore, the segment continues to grow, having accounted for only about 25 percent of business a decade ago.

It is one dominated on a continent-wide basis by the VW Golf, Opel Kadett/Vauxhall Astra and Ford Escort, and on a national basis by the Renault 11 (France and Spain) and Fiat Ritmo (Italy). A glance at the best seller lists from practically every European country indicates the popularity of the category.

And yet it was one in which Peugeot was until now poorly represented. Its Talbot Horizon was fading, and while the Peugeot 305 sedan held up remarkably well in France, the real segment demand is for a five-door hatchback. The Peugeot 309 is just that. The Horizon has gone, another indication of the Talbot name's demise, though the 305 will continue in production.

The 309, developed under the code numer C28, will be important to Peugeot in another respect. It will reduce the company's dependence on the 205, a smaller car in the Fiat Uno/Ford Fiesta/Renault 5 category. The 205 is the French best seller. It has lately been built at a daily rate of 2,350, which is among the highest in Europe. But until the advent of 309, it was carrying the success of Peugeot's future. Last year, for example, 42 percent of the company's worldwide production (883,200) was of 205; this year's proportion will have been higher still.

Beginning in April next year Prissy will be manufacturing 309 at a daily rate of 1,000. In addition, the company's plant at Ryton, England, will then be capable of assembling 1,000 a week from Poissy-supplied kits. For Ryton, whose assembly is just about to begin, it will mark the first UK-built Peugeot, previous models having been Talbots.

Peugeot has invested approximately $275 million in the new vehicle, about half of it in refurbishing facilities at Poissy. The body welding area has been the focus of attention, utilizing many Renault robots, with the result that Poissy is now capable of building all body varieties of three separate model lines. It is the company's most advanced factory, and is said to be among the best in Europe.

The cleanliness and automation contrast sharply with the picture at the end of 1983 and beginning of 1984. Then, a worker revolt over a redundancy plan led to violence, vandalism and gun-toting intimidation. The scenes of anarchy made TV news bulletins around the world.

A peace formula was eventually reached, and Peugeot went ahead with C28 production plans it had threatened to cancel. The Ryton investment amounts to a more modest $40 million.

The 309 is expected to take some sales away from the 205, though the two are seen as complementary. The new model goes on sale in France in October, and into export markets at the beginning of next year.

The Peugeot 309 will go on sale in France in October.

# VW Golf still hot in Europe

## *Volvo 700 moves into first place in Sweden*

New-car sales in Europe's 10 largest markets in the first half of this year revealed one major change over last year: The Volvo 700 went to No. 1 in Sweden, demoting the long-standing leader, the Volvo 200-series.

The top 10 placings from the 10 national markets — which between them account for 94 percent of Europe's passenger car registrations — confirm the regional differences. There were seven different market leaders, with only the VW Golf (three) and Opel Kadett (two) scoring more than once.

The Golf appears to be the most popular model on a pan-European basis too. It recorded placings in all but two national markets, the U.K. and Spain. The widespread appeal of the Kadett and Ford Escort is also confirmed by these returns.

By far the most popular model in a single market was the Fiat Uno. It accounted for more than one in every five Italian sales in the first half of this year. The nearest any other car came to that was the Peugeot 205's 13.6 percent in France. In number terms, too, the Uno's Italian appeal was unparalleled — 211,000. In unit terms, the best any other model achieved was the 156,500 by the Golf in West Germany.

Renault's new generation R5 has done wonders for it in many markets, particularly Italy, Belgium and the Netherlands. But it has so far had less of an impact on the company's two most important markets, France and Spain.

Volvo's dominance in the Swedish market is underlined by the two models occupying the top two places. Between them, the 700 and 200 series account for 22 percent of all Swedish sales. Sweden is one of the few countries in Europe where large cars hold sway over medium and small models.

Even in West Germany, sales of the medium-range Mercedes-Benz 190, BMW 3-series, VW Passat, Audi 80/90 and Ford Sierra are topped by the Golf and Kadett. Indeed, this category of car dominates European sales — whether it is Golf, Kadett, Escort or Renault 11 (Encore).

## Europe's best sellers

**Six months, 1985**

**WEST GERMANY**

| Pos | Model | Units | Market share |
|---|---|---|---|
| 1 | VW Golf | 156,531 | 12.5 |
| 2 | Opel Kadett | 105,156 | 8.4 |
| 3 | Mercedes-Benz 190 | 66,238 | 5.3 |
| 4 | BMW 3-series | 50,332 | 4.0 |
| 5 | VW Passat | 49,398 | 3.9 |
| 6 | Audi 80/90 | 41,130 | 3.3 |
| 7 | Ford Sierra | 39,528 | 3.1 |
| 8 | Opel Ascona | 37,494 | 3.0 |
| 9 | VW Polo | 34,144 | 2.7 |
| 10 | Ford Escort | 30,815 | 2.5 |

**ITALY**

| | | | |
|---|---|---|---|
| 1 | Fiat Uno | 211,000 | 21.2 |
| 2 | Fiat Panda | 70,250 | 7.1 |
| 3 | Renault 5 | 57,600 | 5.8 |
| 4 | Fiat Regata | 56,050 | 5.6 |
| 5 | Fiat Ritmo | 52,250 | 5.3 |
| 6 | VW Golf | 51,000 | 5.1 |
| 7 | Lancia Prisma | 34,300 | 3.4 |
| 8 | Alfa Romeo 33 | 30,650 | 3.1 |
| 9 | Peugeot 205 | 24,150 | 2.4 |
| 10 | Fiat 126 | 21,550 | 2.2 |

**UNITED KINGDOM**

| | | | |
|---|---|---|---|
| 1 | Ford Escort | 78,985 | 8.4 |
| 2 | Vauxhall Cavalier | 72,156 | 7.6 |
| 3 | Ford Fiesta | 64,418 | 6.8 |
| 4 | Austin/MG Metro | 60,196 | 6.4 |
| 5 | Ford Sierra | 52,337 | 5.5 |
| 6 | Austin/MG Montego | 41,893 | 4.4 |
| 7 | Vauxhall Astra | 36,859 | 3.9 |
| 8 | Vauxhall Nova | 36,545 | 3.9 |
| 9 | Ford Orion | 33,744 | 3.6 |
| 10 | Austin/MG Maestro | 28,669 | 3.0 |

**FRANCE**

| | | | |
|---|---|---|---|
| 1 | Peugeot 205 | 122,721 | 13.6 |
| 2 | Renault 5 | 88,956 | 9.9 |
| 3 | Renault 11 | 63,304 | 7.0 |
| 4 | Citroen BX | 62,526 | 6.9 |
| 5 | Renault 25 | 45,736 | 5.1 |
| 6 | Peugeot 305 | 33,381 | 3.7 |
| 7 | Renault 9 | 28,988 | 3.2 |
| 8 | Citroen Visa | 27,338 | 3.0 |
| 9 | Ford Fiesta | 25,332 | 2.8 |
| 10 | VW Golf | 21,056 | 2.3 |

**SPAIN***
**(Five months, 1985)**

| | | | |
|---|---|---|---|
| 1 | Renault 11 | 28,897 | 12.4 |
| 2 | Opel Corsa | 19,017 | 8.2 |
| 3 | Peugeot 205 | 13,980 | 6.0 |
| 4 | Ford Fiesta | 13,260 | 5.7 |
| 5 | Renault 9 | 12,911 | 5.5 |
| 6 | Renault 5 | 12,033 | 5.2 |
| 7 | Seat Panda | 9,749 | 4.2 |
| 8 | Ford Escort | 9,687 | 4.2 |
| 9 | Renault 18 | 9,273 | 4.0 |
| 10 | Seat Ibiza | 8,427 | 3.6 |

**THE NETHERLANDS**

| Pos | Model | Units | Market share |
|---|---|---|---|
| 1 | Opel Kadett | 33,994 | 11.1 |
| 2 | Ford Escort | 17,856 | 5.8 |
| 3 | VW Golf | 13,335 | 4.3 |
| 4 | Volvo 300-series | 12,331 | 4.0 |
| 5 | Ford Sierra | 10,978 | 3.6 |
| 6 | Opel Ascona | 8,213 | 2.7 |
| 7 | Opel Corsa | 8,011 | 2.6 |
| 8 | Renault 5 | 7,491 | 2.4 |
| 9 | Toyota Corolla | 6,890 | 2.2 |
| 10 | Citroen BX | 6,711 | 2.2 |

**BELGIUM**

| | | | |
|---|---|---|---|
| 1 | Opel Kadett | 12,665 | 6.0 |
| 2 | VW Golf | 11,425 | 5.4 |
| 3 | Peugeot 205 | 8,351 | 3.9 |
| 4 | Ford Sierra | 6,160 | 2.9 |
| 5 | Toyota Corolla | 5,978 | 2.8 |
| 6 | Ford Escort | 5,909 | 2.8 |
| 7 | Opel Corsa | 5,759 | 2.7 |
| 8 | Renault 5 | 5,579 | 2.6 |
| 9 | Opel Ascona | 5,439 | 2.6 |
| 10 | Ford Fiesta | 5,006 | 2.4 |

**SWITZERLAND**

| | | | |
|---|---|---|---|
| 1 | VW Golf | 9,196 | 6.2 |
| 2 | Opel Kadett | 8,519 | 5.7 |
| 3 | Opel Ascona | 4,971 | 3.3 |
| 4 | Peugeot 205 | 4,461 | 3.0 |
| 5 | BMW 3-series | 4,348 | 2.8 |
| 6 | Ford Escort | 4,211 | 2.8 |
| 7 | Ford Sierra | 4,022 | 2.7 |
| 8 | Audi 80/90 | 3,900 | 2.6 |
| 9 | Opel Corsa | 3,657 | 2.4 |
| 10 | Fiat Uno | 3,181 | 2.1 |

**SWEDEN**

| | | | |
|---|---|---|---|
| 1 | Volvo 700-series | 18,107 | 12.3 |
| 2 | Volvo 200-series | 14,226 | 9.7 |
| 3 | Saab 900 | 11,169 | 7.6 |
| 4 | VW Golf/Jetta | 8,474 | 5.8 |
| 5 | Opel Kadett | 7,097 | 4.8 |
| 6 | Volvo 300-series | 6,349 | 4.3 |
| 7 | Ford Sierra | 6,016 | 4.1 |
| 8 | Ford Escort | 5,885 | 4.0 |
| 9 | Audi 100 | 4,259 | 2.9 |
| 10 | Opel Ascona | 3,687 | 2.5 |

**AUSTRIA**

| | | | |
|---|---|---|---|
| 1 | VW Golf | 12,841 | 9.8 |
| 2 | Opel Kadett | 10,157 | 7.7 |
| 3 | Opel Ascona | 6,435 | 4.9 |
| 4 | Mazda 323 | 5,808 | 4.4 |
| 5 | Mazda 626 | 5,772 | 4.4 |
| 6 | Ford Escort | 5,709 | 4.3 |
| 7 | Ford Sierra | 4,503 | 3.4 |
| 8 | Audi 80 | 3,712 | 2.8 |
| 9 | Toyota Corolla | 3,518 | 2.7 |
| 10 | VW Passat/Santana | 3,445 | 2.6 |

*—Six months figures not yet available from Spain.

## Production overseas

### UNITED KINGDOM

**Cars**

| | 6 mos. 1985 | 6 mos. 1984 |
|---|---|---|
| BL | 264,194 | 194,806 |
| Austin Rover | 257,156 | 189,378 |
| Range Rover | 7,038 | 5,428 |
| Carbodies | 928 | 773 |
| Ford | 168,742 | 167,299 |
| Jaguar | 20,134 | 17,182 |
| Lotus | 451 | 442 |
| Panther | 66 | 204 |
| Reliant | 472 | 58 |
| Rolls-Royce | 1,311 | 1,097 |
| Talbot | 37,078 | 56,839 |
| TVR | 215 | 169 |
| Vauxhall | 81,799 | 67,698 |
| Others | 315 | 326 |
| Total | 575,705 | 506,893 |

**Vans, trucks, buses**

| | | |
|---|---|---|
| Bedford | 30,884 | 29,141 |
| BL | 48,322 | 37,093 |
| Austin Rover | 13,816 | 9,084 |
| Freight Rover | 10,455 | 8,882 |
| Land Rover | 15,832 | 13,142 |
| Leyland | 8,219 | 5,985 |
| ERF | 1,061 | 850 |
| Foden | 254 | 413 |
| Ford | 59,944 | 57,392 |
| Hestair Dennis | 430 | 479 |
| Metro Cammell Weymann | 243 | 234 |
| Reliant | 41 | 118 |
| Renault TI | 2,771 | 2,117 |
| Seddon Atkinson | 903 | 918 |
| Others | 99 | 145 |
| Total | 144,952 | 128,900 |
| Total vehicles | 720,657 | 635,793 |

### BRAZIL

**Cars**

| | 7 mos. 1985 | 7 mos. 1984 |
|---|---|---|
| Farus | 0 | 19 |
| Fiat Auto | 59,148 | 51,430 |
| Ford | 80,269 | 80,725 |
| General Motors | 98,225 | 95,908 |
| Gurgel | 16 | 22 |
| Puma | 0 | 86 |
| Sta Matilde | 39 | 39 |
| Toyota | 0 | 87 |
| Volkswagen | 148,733 | 168,494 |
| Total | 386,430 | 396,810 |

**Vans, trucks, buses**

| | | |
|---|---|---|
| Agrale | 458 | 321 |
| Fiat Auto | 19,175 | 19,281 |
| Fiat Cam | 112 | 259 |
| Ford | 22,337 | 21,670 |
| General Motors | 14,028 | 14,032 |
| Gurgel | 667 | 480 |
| Mercedes-Benz | 17,219 | 16,213 |
| Puma | 0 | 12 |
| Scania | 2,149 | 1,958 |
| Toyota | 1,287 | 1,781 |
| Volkswagen | 25,453 | 10,687 |
| Volvo | 1,873 | 1,027 |
| Total | 104,758 | 87,721 |
| Total | 491,188 | 484,531 |

## Registrations overseas

### UNITED KINGDOM

**Cars**

| | 8 mos. 1985 | 8 mos. 1984 |
|---|---|---|
| Alfa Romeo | 2,328 | 3,148 |
| BL | 244,157 | 223,858 |
| Austin Rover | 241,867 | 221,724 |
| Range Rover | 2,290 | 2,134 |
| BMW | 25,874 | 17,698 |
| Daihatsu | 3,122 | 3,762 |
| Fiat Auto | 43,021 | 37,531 |
| Ford | 358,938 | 367,821 |
| FSO | 4,514 | 3,888 |
| GM-Vauxhall | 230,747 | 214,742 |
| Honda | 13,188 | 13,217 |
| Hyundai | 3,685 | 3,592 |
| Jaguar | 5,968 | 5,473 |
| Lada | 10,481 | 11,196 |
| Lotus | 424 | 390 |
| Mazda | 11,431 | 12,118 |
| Mercedes-Benz | 13,663 | 10,614 |
| Mitsubishi | 8,878 | 7,183 |
| Nissan | 70,821 | 72,371 |
| Panther | 48 | 169 |
| Peugeot SA | 74,448 | 72,213 |
| Citroen | 20,339 | 18,801 |
| Peugeot Talbot | 54,109 | 53,412 |
| Reliant | 463 | 83 |
| Renault | 55,942 | 46,095 |
| Rolls-Royce | 522 | 508 |
| Saab | 6,176 | 6,324 |
| Skoda | 7,000 | 8,003 |
| Subaru | 2,173 | 1,771 |
| Suzuki | 2,896 | 2,239 |
| Toyota | 24,994 | 23,782 |
| VW-Audi Group | 80,413 | 70,561 |
| Audi | 15,144 | 14,756 |
| Volkswagen | 65,269 | 55,805 |
| Volvo | 43,632 | 43,180 |
| Yugo | 5,999 | 4,036 |
| Others | 3,371 | 3,209 |
| Total | 1,359,317 | 1,290,775 |

### SWEDEN

**Cars**

| | 8 mos. 1985 | 8 mos. 1984 |
|---|---|---|
| Alfa Romeo | 812 | 733 |
| BMW | 3,079 | 2,875 |
| Daihatsu | 979 | 620 |
| Fiat Auto | 4,956 | 4,210 |
| Ford | 20,609 | 17,058 |
| GM-Opel | 19,573 | 14,264 |
| Honda | 2,585 | 2,341 |
| Jaguar | 25 | 26 |
| Lada | 1,008 | 1,020 |
| Mazda | 7,704 | 7,034 |
| Mercedes-Benz | 6,875 | 3,610 |
| Mitsubishi | 1,693 | 1,043 |
| Nissan | 5,843 | 4,475 |
| Peugeot SA | 4,817 | 4,852 |
| Citroen | 2,120 | 2,323 |
| Peugeot Talbot | 2,697 | 2,529 |
| Porsche | 346 | 228 |
| Renault | 1,499 | 1,690 |
| Saab | 17,926 | 17,956 |
| Skoda | 250 | 211 |
| Subaru | 1,038 | 371 |
| Suzuki | 408 | 1 |
| Toyota | 7,180 | 5,565 |
| VW-Audi Group | 21,761 | 17,008 |
| Audi | 7,875 | 4,059 |
| Volkswagen | 13,886 | 12,949 |
| Volvo | 45,278 | 36,591 |
| Others | 32 | 14 |
| Total | 176,276 | 143,796 |

### WEST GERMANY

**Cars**

| | 7 mos. 1985 | 7 mos. 1984 |
|---|---|---|
| Alfa Romeo | 5,273 | 8,448 |
| Austin Rover | 4,431 | 4,677 |
| Bertone | 307 | 580 |
| BMW | 91,520 | 98,071 |
| Daihatsu | 4,891 | 4,017 |
| Fiat Auto | 65,830 | 69,959 |
| Ford | 153,062 | 186,082 |
| GM-Opel | 231,945 | 260,516 |
| Honda | 23,409 | 25,354 |
| Isuzu | 2,036 | 1,682 |
| Jaguar | 1,510 | 1,126 |
| Lada | 5,114 | 5,694 |
| Mazda | 41,567 | 43,036 |
| Mercedes-Benz | 165,949 | 133,765 |
| Mitsubishi | 27,400 | 27,910 |
| Nissan | 39,393 | 38,469 |
| Peugeot SA | 59,581 | 63,753 |
| Citroen | 23,281 | 25,660 |
| Peugeot Talbot | 36,300 | 38,093 |
| Pininfarina | 817 | 462 |
| Porsche | 7,859 | 7,390 |
| Renault | 50,777 | 55,463 |
| Saab | 1,956 | 2,429 |
| Seat | 2,563 | 3,061 |
| Skoda | 1,375 | 1,386 |
| Subaru | 6,265 | 4,298 |
| Suzuki | 11,025 | 8,928 |
| Toyota | 37,047 | 33,183 |
| VW-Audi Group | 429,364 | 417,347 |
| Audi | 86,229 | 89,405 |
| Volkswagen | 343,135 | 327,942 |
| Volvo | 8,615 | 9,961 |
| Others | 1,377 | 1,000 |
| Total | 1,482,260 | 1,518,047 |

### AUSTRIA

**Cars**

| | 7 mos. 1985 | 7 mos. 1984 |
|---|---|---|
| Alfa Romeo | 1,437 | 1,739 |
| Austin Rover | 205 | 150 |
| BMW | 4,896 | 5,327 |
| Daihatsu | 422 | 466 |
| Fiat Auto | 9,018 | 10,445 |
| Ford | 15,663 | 14,327 |
| GM-Opel | 22,607 | 17,851 |
| Honda | 3,096 | 2,860 |
| Lada | 984 | 886 |
| Mazda | 13,766 | 13,727 |
| Mercedes-Benz | 5,568 | 4,016 |
| Mitsubishi | 3,217 | 2,817 |
| Nissan | 7,947 | 6,699 |
| Peugeot SA | 10,361 | 9,825 |
| Citroen | 4,487 | 4,209 |
| Peugeot Talbot | 5,874 | 5,616 |
| Porsche | 331 | 336 |
| Renault | 7,058 | 6,609 |
| Saab | 202 | 279 |
| Seat | 686 | 477 |
| Skoda | 757 | 677 |
| Subaru | 2,056 | 1,193 |
| Suzuki | 912 | 766 |
| Toyota | 7,642 | 6,293 |
| VW-Audi Group | 34,008 | 25,769 |
| Audi | 6,762 | 4,618 |
| Volkswagen | 27,326 | 21,151 |
| Volvo | 2,167 | 2,289 |
| Others | 135 | 81 |
| Total | 155,203 | 136,104 |

### ITALY

**Cars**

| | 6 mos. 1985 | 6 mos. 1984 |
|---|---|---|
| Alfa Romeo | 64,828 | 64,828 |
| Austin Rover | 11,605 | 11,833 |
| BMW | 12,481 | 16,760 |
| Fiat Auto | 522,141 | 519,594 |
| Fiat | 429,718 | 439,699 |
| Lancia/ Autobianchi | 92,423 | 79,895 |
| Ford | 41,002 | 40,714 |
| GM-Opel | 29,630 | 31,416 |
| Innocenti | 8,637 | 10,661 |
| Mercedes-Benz | 11,155 | 8,178 |
| Peugeot SA | 69,669 | 64,013 |
| Citroen | 38,442 | 35,766 |
| Peugeot/Talbot | 31,227 | 28,247 |
| Renault | 104,425 | 84,613 |
| Seat | 19,737 | 14,442 |
| VW-Audi Group | 77,831 | 47,409 |
| Audi | 10,305 | 9,261 |
| Volkswagen | 67,526 | 38,148 |
| Volvo | 10,514 | 11,666 |
| Others | 10,734 | 15,731 |
| Total | 994,389 | 941,858 |

### DENMARK

**Cars**

| | 7 mos. 1985 | 7 mos. 1984 |
|---|---|---|
| Alfa Romeo | 164 | 198 |
| Austin Rover | 224 | 289 |
| BMW | 2,134 | 1,694 |
| Dacia | 512 | 587 |
| Daihatsu | 1,583 | 1,187 |
| Fiat Auto | 4,966 | 5,242 |
| Ford | 15,371 | 14,856 |
| FSO | 1,273 | 646 |
| GM-Opel | 16,735 | 13,031 |
| Honda | 1,123 | 872 |
| Lada | 2,333 | 2,668 |
| Mazda | 8,170 | 8,273 |
| Mercedes-Benz | 663 | 503 |
| Mitsubishi | 1,671 | 905 |
| Nissan | 4,652 | 4,880 |
| Peugeot SA | 5,705 | 6,210 |
| Citroen | 3,755 | 3,936 |
| Peugeot/Talbot | 1,950 | 2,274 |
| Renault | 757 | 387 |
| Saab | 1,088 | 1,122 |
| Seat | 235 | 0 |
| Skoda | 2,574 | 4,932 |
| Subaru | 81 | 133 |
| Suzuki | 300 | 28 |
| Toyota | 11,221 | 9,565 |
| Trabant | 61 | 119 |
| VW-AudiGroup | 6,940 | 5,820 |
| Audi | 498 | 414 |
| Volkswagen | 6,442 | 5,406 |
| Volvo | 3,855 | 3,834 |
| Wartburg | 774 | 678 |
| Yugo | 1,095 | 494 |
| Total | 92,238 | 89,359 |

### SWITZERLAND

**Cars**

| | 6 mos. 1985 | 6 mos. 1984 |
|---|---|---|
| Alfa Romeo | 3,849 | 4,546 |
| AMC | 78 | 82 |
| Austin Rover | 1,275 | 1,375 |
| Bertone | 120 | 154 |
| BMW | 6,363 | 7,416 |
| Daihatsu | 567 | 537 |
| Ferrari | 106 | 103 |
| Fiat Auto | 11,528 | 12,773 |
| Ford | 11,738 | 13,760 |
| GM-Opel | 20,956 | 22,576 |
| Honda | 4,507 | 4,972 |
| Isuzu | 193 | 313 |
| Jaguar | 244 | 236 |
| Maserati | 108 | 185 |
| Mazda | 4,354 | 5,107 |
| Mercedes-Benz | 3,692 | 3,610 |
| Mitsubishi | 4,291 | 4,610 |
| Nissan | 5,686 | 5,238 |
| Peugeot SA | 12,823 | 13,488 |
| Citroen | 4,815 | 5,987 |
| Peugeot Talbot | 8,008 | 7,501 |
| Pininfarina | 150 | 159 |
| Porsche | 794 | 935 |
| Puch | 62 | 52 |
| Renault | 9,658 | 8,044 |
| Rolls-Royce | 38 | 42 |
| Saab | 702 | 764 |
| Seat | 789 | 0 |
| Skoda | 54 | 85 |
| Subaru | 5,654 | 3,427 |
| Suzuki | 1,991 | 1,828 |
| Toyota | 9,520 | 10,294 |
| VW-Audi Group | 24,442 | 24,118 |
| Audi | 8,156 | 6,101 |
| Volkswagen | 16,286 | 18,017 |
| Volvo | 2,892 | 3,719 |
| Others | 161 | 92 |
| Total | 149,385 | 154,640 |

### FRANCE

**Cars**

| | 5 mos. 1985 | 5 mos. 1984 |
|---|---|---|
| Alfa Romeo | 6,548 | 9,440 |
| Aro | 91 | 468 |
| Austin Rover | 10,878 | 13,476 |
| BMW | 11,016 | 13,734 |
| Fiat Auto | 34,624 | 42,676 |
| Ford | 58,724 | 61,583 |
| FSO | 754 | 805 |
| GM-Opel | 36,257 | 32,185 |
| Honda | 2,725 | 2,638 |
| Innocenti | 515 | 669 |
| Jaguar | 95 | 73 |
| Lada | 8,523 | 10,400 |
| Mazda | 6,726 | 4,068 |
| Mercedes-Benz | 7,662 | 7,652 |
| Mitsubishi | 1,342 | 1,454 |
| Nissan | 6,442 | 5,374 |
| Peugeot SA | 264,078 | 252,886 |
| Citroen | 98,430 | 101,416 |
| Peugeot/Talbot | 165,648 | 151,470 |
| Porsche | 478 | 672 |
| Renault | 226,625 | 242,735 |
| Saab | 598 | 430 |
| Seat | 8,148 | 5,552 |
| Skoda | 1,305 | 1,703 |
| Toyota | 5,089 | 4,649 |
| VW-Audi Group | 45,951 | 41,340 |
| Audi | 10,853 | 10,905 |
| Volkswagen | 35,098 | 30,435 |
| Volvo | 7,771 | 6,959 |
| Yugo | 695 | 584 |
| Others | 206 | 85 |
| Total | 753,866 | 764,290 |

# SAMMIE designs shapes of things to come

## *New computer can simulate people and environments*

**By Anne Hope**
Special Correspondent

LEYLAND, Lancashire, England. — Many U.K. cars, derived from left-hand-drive models, leave a good deal to be desired in terms of arrangement of controls, ease of reading essential instruments and their general ergonomic layout.

Also, few things can be as confusing to a driver as seeing the same object apparently closing in as it disappears from one mirror and almost immediately reappears on another mirror.

All of these need a touch of SAMMIE. SAMMIE is an acronym that stands for "System for Aiding Man/Machine Interaction Evaluation."

SAMMIE is an easy-to-use 3-D Computer Aided Design modelling system which can be used to build a simulated environment such as a car, cockpit, office — even a kitchen — anywhere that people and objects must interact in order to complete specific tasks successfully.

The principal benefit over the traditional approach of a mock-up or a prototype is that SAMMIE saves time and money and avoids impossible solutions early in the design process, many months before costly tooling has been commissioned.

The multicolored graphic representation of people and objects in their correct spatial relationship to one another allows the design and development team to try out so many combinations that it is virtually certain that all shapes and sizes of people are accounted for.

The simulated human is created from a series of standardized shapes; all joints can be given the correct amount of 3-D movement that a live person would have. The most unusual feature of SAMMIE is that, unlike conventional dummies, this man-model can be given "sight."

It is easy to change the size of such fundamental shapes as arms, legs, feet, hands, torso and head. SAMMIE can, therefore, be given a wide range of possible postures; and it is easy to establish whether blind spots might result.

You could say that SAMMIE represents the shape of things to come. The driving force behind SAMMIE is a powerful U.S. corporation that did not even exist 14 years ago yet, by 1984, had a sales turnover of $643-million.

Taking over the ideas and the first computer program from England's Nottingham University, the company, called Prime, based in Natick, Mass., Prime has since developed the ideas in-house in close collaboration with ultimate users, such as Leyland Bus and Truck's Technical Centre, with a venture supported by the British Government at a cost of 22 million pounds.

The cost of the SAMMIE program is, in fact, a small part of this expenditure. Much of the basic ergonomic work for the new cab for the new Leyland Roadrunner was done using SAMMIE.

Thanks to SAMMIE, the new Roadrunner range of light trucks combines the advantages of commercial vehicles with those of passenger cars. Roadrunner has a totally new cab, called the C44, which is highly efficient — compact yet spacious — on a purpose-designed chassis.

By adjusting the steering column and seat, the driver can choose a traditional flat-wheel, truck position or a raked-wheel position similar to most cars. The driver's seat is highly ingenious, with slim, comfortable seat cushions, which result in good interior space while incorporating — for the first time ever in a truck, claims Leyland — a pump-up adjustable lumbar support to prevent trucker's backache.

The versatility of SAMMIE is best demonstrated by making a cyclist suddenly appear in the outside driving mirror: One can follow his progress alongside the vehicle or, for that matter, see a child chasing a ball right in front of a truck cab.

To avoid traffic accidents caused by drivers failing to see, in time, that pedestrians or cyclists are approaching dangerously close, Leyland modified the mirrors of the Roadrunner and introduced a kidney-shaped "Curb-Finder Window," which gives a driver a remarkably good forward view — much better than anyone can realistically hope for.

Robin Dickeson, Leyland's product affairs manager, claims: A highly significant feature — and the most recognizable to other road users at least wherever the Roadrunner is sold, is its asymmetric front window set below the level of the windscreen on the passenger side.

Driver vision has received particular attention, with computer models used to develop windscreen, front curb-window and rearview mirror positions, he said.

Prime, one of the world's four largest suppliers of superminicomputer systems, has the highest sales of any minicomputer manufacturer selling turnkey CAD/CAM systems.

Prime has 37 sales offices located in 14 European countries, with its European headquarters in West London, England.